PETROLEUM WEEK

JULY 29, 1955

■ A McGRAW-HILL PUBLICATION

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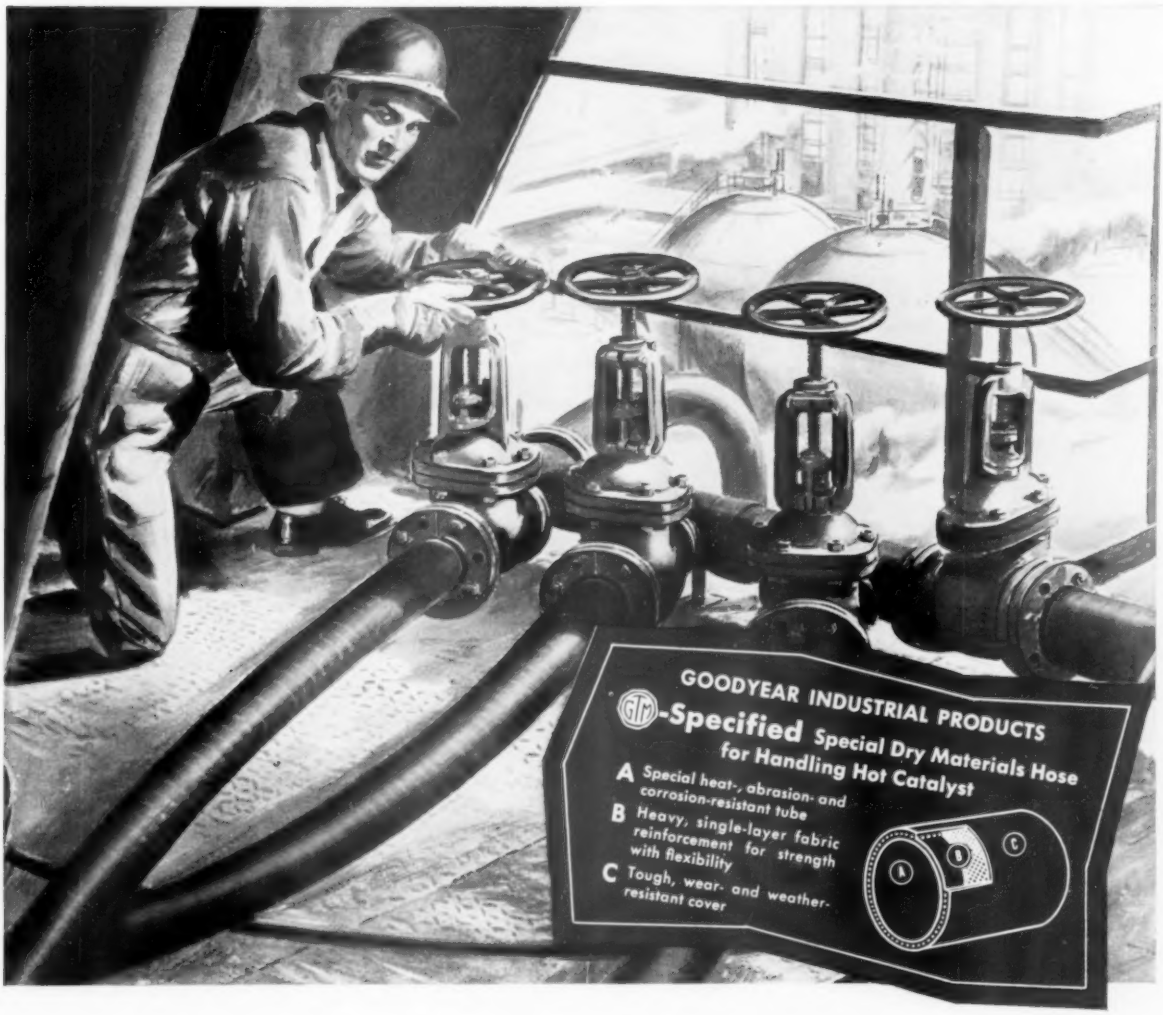
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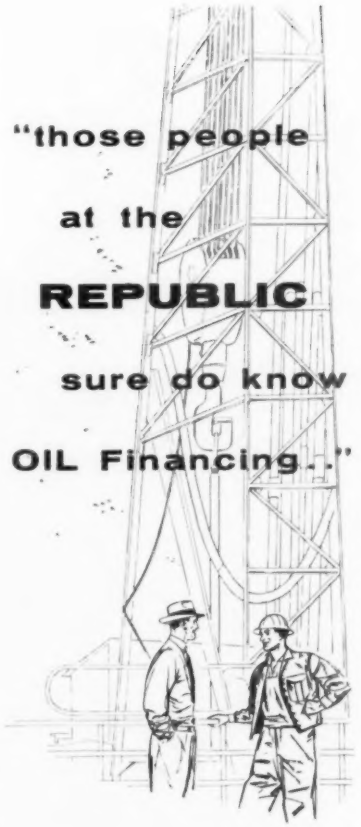

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60-Second Summary / WHAT'S HAPPENING IN OIL

AT-A-GLANCE PETROLEUM WEEK Copyright

July 29, 1955

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World oil prices no longer are tied exclusively to the U.S. Gulf Coast and Caribbean areas. That's the significance of Shell Petroleum's action last week in posting refined oil prices at Singapore. ... p. 9

•

Refiners and marketers in the Midwest are reaping the harvest from a greatly improved statistical position on gasoline. Standard of Indiana this week gave Chicago tank wagon prices their first boost—0.5¢ gal.—in two years. Continental Oil upped its postings in five Rocky Mountain states —0.4¢ on regular, 0.6¢ on premium. ... p. 36

•

The Interior Dept. has approved all the high bids made at its July 12 sale of Continental Shelf tracts, including 13 tracts in the area in dispute with Louisiana. This is another step in the industry's risky, expensive, and complicated search for offshore oil. ... p. 14

•

Lone Star Steel Co., Dallas, revoked its price increases on line pipe, casing, and steel plate this week. The reason: The CIO Steelworkers Union rejected a new contract embodying the industry wage pattern (PW—Jul. 8'55,p11), preferring to bargain separately on its contract, which doesn't expire until Sept. 7. With steel supplies tight, other steelmakers are not expected to follow Lone Star's lead.

•

There will be no all-out union organizing drive in oil soon. CIO leaders' dream of building "the mightiest union" is running into practical difficulties, such as the need for money. ... p. 13

•

A new attack on the oil depletion allowance is being cooked up. Senator Humphrey (D., Minn.) plans an investigation by his subcommittee to show that integrated oil companies use the allowance as a weapon in their competition with nonintegrated companies. ... p. 6

•

Future oil industry expansion may be hampered if the plan to curtail rapid tax writeoffs goes through. Meanwhile, some oil expansion goals still haven't been met. ... p. 12

•

A new engineering principle may some day put an end to the race for higher octane motor gasoline. Automotive engineers are considering incorporating some of the principles of a new German diesel engine into gasoline-engine design. If the multifuel appetite of the new diesel can be carried into the gasoline-engine field, the need for high octane gasoline may gradually disappear.

•

Who's going to control the fabulous Gulbenkian empire, now that the mystery man of international finance is dead? The role of Calouste S. Gulbenkian's son, Nubar, is still uncertain. ... p. 28

Looking Ahead in Washington

McGraw-Hill
Washington
Bureau
July 29, 1955

Watch for a new attack on oil depletion allowances. It will grow out of the investigations of retail gasoline marketing, started by Rep. James Roosevelt (D., Calif.).

The man behind it is Senate Democrat Hubert Humphrey. Plan is for Humphrey to use his Senate small business subcommittee to go far beyond the Jersey price war situation and try to cite the oil industry as an example of Eisenhower's failure to protect small business. Depletion will be brought up in the big vs. small conflict as being to the advantage of the integrated company.

It will be an attack on integrated operations. But information about the depletion allowance will fit into the tax inquiry that the Joint Congressional Economic Committee will conduct this December.

•

Manpower shortages show up in oil research. That's the conclusion the Labor Dept. reached in a study of the supply of scientists available for the research and development divisions of all industry. The study was made for the National Science Foundation. The situation in oil varies from company to company, but shortages are not general, as they are in aircraft.

•

Plans for gasoline rationing in event of war are going ahead, despite the peace trend at Geneva. The idea for a sudden emergency is this: Station national guardsmen at filling stations to limit gasoline deliveries to autos until a formal rationing system can be set up by act of Congress.

•

Rising asphalt sales are indicated by the four-year civil airport program now clearing Congress. It calls for a total of some $464-million to be spent by federal and state governments. Estimates are that nearly $20-million will go directly into asphalt purchases. Sales of asphalt have been down due to failure of Congress to vote funds last year.

•

The Army is streamlining oil procurement. Orders are for all oil needs to be screened more closely to eliminate overages in open-end contracts. Industry had complained to ASPPA over sharp gaps in products ordered and quantities ultimately picked up. ASPPA also is expecting the Air Force and the Navy to tighten up bookkeeping and save sellers time and money.

•

Gasoline tax refund on casualty losses won't be cleared by Congress this session. Marketers were busy on imports, roads—didn't push it.

•

The tanker program is in more rough water. Under the trade-in-and-build program, shippers are balking at building up to the 18-knot requirements. They say 18 knots are too much.

The 15-tanker charter-build program has stalled over a squabble on bid selections made by the Navy. The General Accounting Office is checking on complaints by nonwinning bidders.

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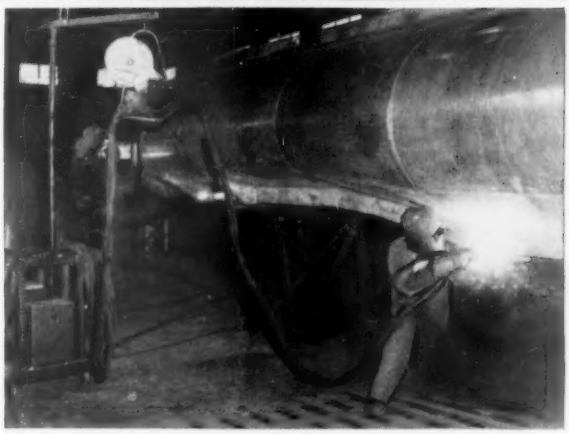

The problem of how to get bigger pay-loads in truck trailers and semi-trailers was solved by one manufacturer who converted to weight-saving aluminum and sigma welding . . . These giant semi-trailer tanks hold 7,950 gal.—700 gal. more than similar tanks made of steel.

The high quality of sigma welded aluminum has increased tank resistance to corrosion. Sigma welding has also eliminated expensive weld cleaning—welds need only a light grinding and they are finished. Each semi-trailer requires about 1,100 linear ft. of sound sigma welding. The new high-strength, ductile alloys used range in thickness from 3/32 to ½ inch.

Like many other products throughout industry, these trailers are being fabricated with new quality and efficiency using sigma welding.

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FORMATION WATER CONTROLLED

SOS (Slurry Oil Squeeze)—new DOWELL service for oil and gas wells—stopped water production completely, aided effectiveness of fracturing

Dowell's new Cementing Service—SOS (Slurry Oil Squeeze)*—is designed to provide a fast, low-cost means of ending troublesome water encroachment in oil and gas wells.

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Dowell engineers premix the entire batch of slurry for SOS in truck-mounted, paddle-mixing tanks. This equipment is specially designed to mix a uniform slurry—even in small batches. High-pressure triplex pumps are used to inject the slurry into the formation. The SOS slurry is made up of portland cement, a Dowell surface tension reducing agent and a non-aqueous carrying medium—for example, specially blended oils. The cement sets up only when contacted by formation water.

Contact the nearest Dowell office for more information on SOS or any of Dowell's many oil field services—in Venezuela, contact United Oilwell Service, S.A. Or write Dowell Incorporated, Tulsa 1, Oklahoma, Dept. G-75.

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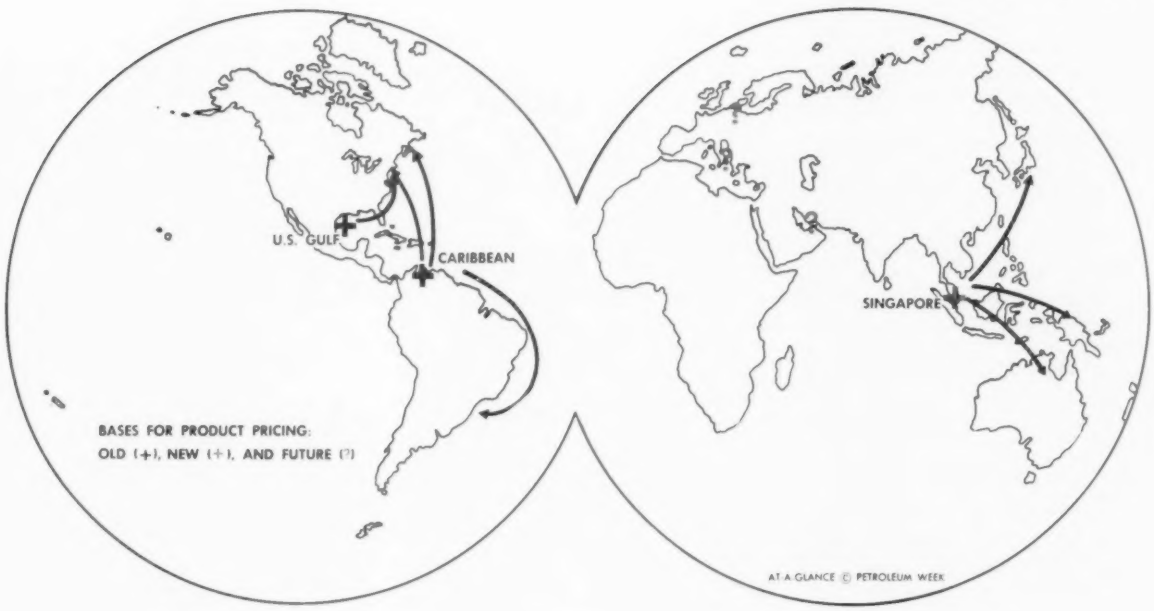

Singapore joins Gulf Coast and Caribbean, and . . .

World Oil Pricing Pattern Shifts

A new world pattern for pricing of refined oil began taking shape this week. It came as the result of Shell Petroleum Co.'s establishment of Singapore as the world's third—and the Eastern Hemisphere's first—pricing center.

Shell's action caught the oil industry—domestic as well as international—by surprise. And the prices posted—FOB Shell's Pulu Bukom terminal at Singapore—seemed to have no relationship to established world listings.

Pulu Bukom is the principal storage and reshipping terminal for Shell interests in the Far East. The company has refineries in nearby Indonesia (not all them on deep water) at Pladju in Sumatra, Jepu in Java, and Balik Papan in British Borneo. The combined output of these plants is about 144,000 b/d. The Singapore terminal gathers much of this output, plus receipts from the Caribbean, and makes general distribution throughout the Far East and Australasia.

Up to now, prices for refined oils in cargo lots have been made public only in the U. S. Gulf and Caribbean areas. Prices elsewhere in the world usually have been based on one or the other of these two postings.

There was a time—before 1948—when anybody with a sharp pencil could figure out what the price of oil would be almost anywhere in the world. In Italy, for example, it was the U. S. Gulf price (Platt's OILGRAM low), plus the Curacao-to-Malta ocean freight rate. In Northern Europe, it was the U. S. Gulf price plus the Hamburg/Antwerp range. In Japan, it was Middle East (in effect, the U. S. Gulf, for Middle East prices, which are not published, are the same) plus the freight from Abadan. And so on.

But changes have been taking place since 1948. That was the year the U. S. made the turnabout from a net exporter to a net importer of crude and products. Simultaneously, the Middle East and Caribbean areas started growing in spectacular fashion. The result has been that, for purposes of exports, the Caribbean and the Middle East have emerged as the dominant supply and pricing areas (even though Middle East prices are not published). And now comes the Far East.

There also has been a tendency in recent months toward a more public airing of oil price information. Shell affiliate, Sarawak Oil Fields, Ltd., was the first to publish crude oil prices in the Far East The company listed $2.60 a bbl. for Seria Light crude, effective Apr. 1, 1954. Two other Shell companies—Colon Development and Compagnia Shell de Venezuela—publicly posted crude and products prices for Venezuelan oils on Feb. 1 of this year.

Despite Singapore, U. S. producers of crude and Gulf Coast refiners will continue in almost as strong a position as ever insofar as world oil pricing is concerned.

On crude oil, the price of prorated Texas production probably has a better chance of affecting the prices of unsupervised production abroad than the other way around. The pay-out for Middle East oil wells (as low as 28 days) leaves the average Persian Gulf seller content to hang his prices on competitive Texas crudes laid down on the U. S. East Coast. The mere thought of pricing the lush Middle East output on producibility, or on any basis that takes into account the stupendous reserves in the area, is an invitation to chaos.

On refined products, the Gulf Coast is still hanging on in world markets. A refiner in Italy no longer may be able to sell cargoes on a Gulf-plus-

transportation basis. But the Gulf position of the historic formula—Singapore or no Singapore—is very much alive.

In actual practice, a foreign refiner will ask himself: How badly do I need to sell? How much do I like the buyer's currency? If the sale is a desirable one, in his estimation, the refiner will ask OILGRAM low. If it isn't a sale he particularly wants to make, then he'll likely ask what, in effect, is the low Gulf price, plus a freight factor. But one way or the other, the Gulf price has colored his thinking.

Shell by its action:

• **Knocks into a cocked hat one of the main Federal Trade Commission charges against the international oil companies.** FTC has asserted that prices for oils in primary supply areas were agreed upon to be the same at all points of origin. The new Singapore prices are 0.5¢ to 1.625¢ a gal. higher than Gulf Coast and Caribbean prices.

• **Puts the Far East on the map as a maturing refinery and market complex.** The Far East is not yet self-sufficient on all products. But big strides have been taken since 1951 to close the refined-oil gap East of Suez.

• **Leaves the competition completely befuddled as to** a basis for its Singapore price schedules.

Comments in the international oil trade on the Shell prices varied widely. Here are a few samples: "It's got us completely baffled." "There's no rhyme or reason to them." "They're not related to any given CIF prices." "It looks like an unprovable pricing basis, which will permit the company to react any way it pleases to Gulf Coast and Caribbean developments."

But, pricing theories aside, one international marketer stated it bluntly: "Shell, in effect, is saying that the Far East is its own backyard. And if any outside companies want to penetrate that market, they will have to meet the Shell prices or stay out."

What has the competition guessing is that there's no apparent basis—that is, historical basis—for the Singapore prices. Shell admits cryptically that "there's a little freight in them." But competitors are asking, how much? And freight from where?

On avgas, the Singapore prices started out 1.625¢ a gal. higher than Caribbean prices for similar grades. But when avgas prices went up 0.5¢ in the Caribbean this week, the Singapore prices went up only 0.25¢.

And how come motor gasoline prices at Singapore are 0.5¢ a gal. above U. S. Gulf levels? And gas oil higher by 0.625¢? Shell's light fuel oil price, at $3.00 a bbl., apparently is an indigenous price, with no relation to Gulf or Caribbean.

Singapore and Java crudes mostly are paraffinic and range from 35 to 48 degrees gravity. They yield a relatively light residual compared to oils of U. S. and Caribbean manufacture.

More changes undoubtedly are in store in world pricing. But it may be slow going. The Central Mediterranean and Northern Europe may emerge as centers for independent cargo-lot prices. Middle East refineries may start setting their own cargo prices. And don't overlook the Pacific Northwest and Japan as other possibilities.

But the U. S. Gulf, even though it's no longer the major export center, will continue to dominate world pricing for a long time. Here's a very recent example to show its continuing impact on world markets. An impact by courtesy, perhaps, but still an influence to be reckoned with.

In early July, the Gulf Coast and Caribbean prices for bunker "C" fuel were $1.95 a bbl. On July 13, Shell affiliates moved to $2.10 at Cardon and Curacao, in the Caribbean. On July 14, Jersey Standard affiliates moved up likewise at Aruba, Amuay, and Caripito. But all this time, even in the face of insistent demand for heavy fuel, the Gulf Coast hung back at $1.95 until July 20; then they, too, moved up to $2.10.

In the meantime, Eastern Hemisphere sellers had held off advancing their ships' bunkering prices. And the funny thing is, they are still holding off advances in Europe, Africa, and the Far East until stocks of bunker oil theoretically bought at the Gulf at $1.95 (but actually derived from refining Middle East crude) are worked off. It doesn't make sense, but that's the way it is.

The Southwest has a couple more ace kickers. For purposes of foreign exchange and for purposes of approval of shipping documents, foreign governments still insist on paying prices that either are pegged to, or are no higher than, cargo prices reported at the U. S. Gulf.

Right now, oil men are watching Singapore. They want to see what Singapore prices do in the wake of moves elsewhere in the world. Chances are good, they say, that Singapore will be a follower, rather than a leader, in world oil—that it will still tip its hat, albeit obliquely, to the U. S. Gulf.

New Gas Lines Under Way to Northwest

The day when natural gas becomes available to the vast Pacific Northwest area is moving closer and closer, as construction crews on two big pipeline projects lay pipe at the rate of more than 3,000 ft. each 24 hours. At left, 26-in. pipe is strung along the right-of-way of Pacific Northwest Pipeline Corp.'s 1,446-mi. main line from the San Juan Basin of Colorado and New Mexico to Seattle. At right, crews dope and wrap a section of 22-in. pipe on Colorado Interstate Gas Co.'s new line. It will run from Colorado to Wyoming, where it will tie into the Pacific Northwest's system. The projects are set for completion late this fall (PW—Jul.22'55,p24).

PETROLEUM COMMENTS

By W. M. Jablonski

No 'Hit and Run' Expansion

PARIS—It's a fairly safe bet that one of these days, in the not too distant future, American oil circles will be hearing more and more about France's rapidly expanding Compagnie Francaise des Petroles.

Little is known in the United States about this company—other than that it added a 6% slice of the Iranian oil consortium last year to its other Middle East holdings, and that it bid recently on several U. S. import contracts. Not unnaturally, this has raised the specter in domestic circles of CFP as a potential "dumper" of Middle East oil on American markets.

* * * *

However, one has only to spend several days visiting here with top CFP officials, as this reporter has done, to see that this is far from a complete or accurate picture of the company's programs and plans.

Plans it has, no doubt about that. Ambitious and aggressive ones. But not along the crude oil "dumping" lines.

Until recently, this French unit (35% owned by the French Government) has been "inward looking"—serving only markets in France and the French Union, and merely disposing of occasional excess Middle East oil here or there.

But it has new ideas now. And it has no desire to become merely a bigger wholesaler of Middle East crude as such.

Instead, it has mapped out a step-by-step program to become a world-wide integrated organization—from crude production, through refining, to marketing, to the ultimate consumer under its own brand name "Total."

It seems that France clearly intends to join the "Big Seven" American, British, and Dutch international oil firms—and rename them the "Big Eight."

* * * *

CFP isn't letting any grass grow under its feet, either. Look at what it has already accomplished along this line in the past few months:

- India—CFP signed an exclusive supply contract in March with Western India Oil Distributing Co. to ship products from the Abadan (Iran) refinery to the latter's ocean terminals in Bombay and Madras. First shipments of gasoline, gas, oil, and kerosine were slated in July.
- Australia—CFP bought an important interest in Anglo-United Petroleum Co. Ltd., formed in 1954. The firm is building a 225,000-bbl. ocean terminal at Botany Bay, near Sidney, which is scheduled for completion this summer, plus service stations, etc.
- South Africa—CFP is forming a company, Total Oil Products Pty., in Johannesburg, with terminals to be built in Lourenzo Marques, Mozambique.
- Japan—CFP made arrangements with a local refinery to supply it with some Persian Gulf crude.
- Italy—CFP acquired a 50% interest this spring in Aquila, Italian refining and marketing company. It also owns 50% of the Societa per Azioni Petrol Aeto Adriatico, which markets in southern Italy.
- Portugal—CFP this year bought a share in the Sociedad Nacional de Petroleos refinery, and will supply its crude.

Other plans are also in the works, including, probably, markets in northern Europe to be supplied from CFP's expanded French refineries.

* * * *

CFP isn't stopping in the Eastern Hemisphere, either. It's also eyeing the Western Hemisphere. But there its approach is slower, more cautious.

The company already has started modest, but steadily increasing investments in oil exploration and production in western Canada. With any luck, CFP will probably build on that crude supply as a base.

At the same time, it is carefully sounding out prospects in the United States. Though this is still in too early a stage to be discussed by CFP officials, best outside guess is that some crude supply-refining-marketing arrangement might be sought.

* * * *

But the significant point—from the standpoint of U. S. oil circles—is that the new marketing arrangements that CFP has already made, or is making, in the Eastern Hemisphere will pretty well use up the company's scheduled supplies of Middle East crude for some time. So there won't be much left to "dump," even if CFP should want to—which it doesn't.

This doesn't mean that CFP won't have surplus crude every once in a while—as new supplies come on before some planned market outlet has gotten underway, or when some sales program gets snagged.

Another possible cause of an occasional crude surplus is the fact that CFP does not control its own supplies individually in Iraq, Qatar, or Iran, but has only a minority share in group operations. In Iraq and Iran, too, minimum export volumes have been guaranteed the governments for the next few years.

In short, the company is planning to operate long-term through substantial investments in international refining and marketing facilities of its own. It isn't likely, therefore, to want to upset apple-carts, or dispose of crude on any "hit and run" basis.

And the more one talks to top CFP officials, the more one is impressed by the earnestness of their desire to join the large, international marketing organizations on an intelligent, responsible basis.

What Fast Tax Writeoffs Mean to Oil

	Number of Certificates Approved by ODM	Dollars Value Capacity Expansion (in millions)	Percent Approved by ODM for Five-Year Writeoff
All U. S. Industry	19,961	$30,500	60%
Oil-Industry Total	1,906	4,852	51%
Oil-Field Equipment	7	8.4	32%
Natural Gasoline and Related Activities	262	392	58%
Refining and Affiliated Activities	805	2,570	66%
Pipelines (Crude and Products)	187	1,100	25%
Storage (Crude and Products)	528	259.6	44%
Gas (Transmission, Distribution, Manufacturing, and Storage)	117	521.3	25%

(Sources: Office of Defense Mobilization; Interior Dept., Oil & Gas Div.)

Oilmen Assess Tax Writeoff Cut

The government's rapid-tax-write-off program faces almost certain curtailment; chances are that certificates of necessity for oil expansion will soon be few and far between.

At stake is a system authorized in 1950 to stimulate private construction of defense and defense-related facilities. It permits a company to depreciate a specified part of the cost of such new equipment in five years instead of the normal 15 or 20. This does not change the amount of tax; it simply shifts the bulk of payments to later years.

Treasury Secretary George Humphrey feels this is costing the government too much loss of immediate revenue. He estimates that certificates already granted will mean deferment of $880-million in taxes this year.

A decision is expected soon—probably in early August. Since it is one to be made by the executive branch, rather than by Congress, it's likely that Humphrey's views will carry great weight.

It has not yet been determined just how severe the new requirements for fast writeoffs will be, but if Humphrey has his way they will be tough—probably applying only to strictly military items being supplied under government contract.

Defense Mobilizer Arthur S. Flemming is now studying the existing programs to determine which should be limited or sharply curtailed.

This means that the government's expansion goals for refining, transportation, and storage, may be limited to specific military projects, such as a products pipeline to an air base or storage tanks to serve a military installation.

It means, too, that plans for a new expansion goal for refining may well be shelved.

The current goal, established in October, 1953, is a capacity of 8¾ million b/d. That goal has already been substantially filled; that is, certificates have been approved for projects which, when completed, will bring capacity to approximately that total.

As a result, the Interior Dept.'s Office of Oil & Gas has recommended a new goal of 9-million b/d capacity—an increase of 250,000 b/d over the old goal. The Office of Defense Mobilization was on the verge of granting this when the uproar arose over the entire tax writeoff program.

New alkylate facilities may be the principal oil program to survive the proposed cut. Alkylates have a direct defense tie-in because they are essential in making aviation gasoline for the military, and because operation of alkylate plants in peacetime is generally uneconomic. Therefore, unless there is some special incentive, the plants would not get built.

The current alkylate goal, aimed at adding 30,000 b/d capacity, has about been filled. Defense officials think this may not be enough, and have a new target under consideration.

Most other oil industry products are not limited solely or chiefly to military uses, therefore would not meet the test of the proposed new standards.

It remains to be seen what effect the proposed curtailment will have on the oil industry's growth.

Some minimize the possible impact. They say the industry increased its facilities because it felt there would be a continued rising demand for products. Few decisions to expand were prompted by fast-tax-writeoff benefits.

Others say the impact will be substantial. They feel that a considerable part of the industry's expansion in recent years has resulted from the government's urging, and that if the incentive provided by fast tax writeoffs is withdrawn, expansion will slow down appreciably.

Last year's revision of the regulations on normal tax writeoffs could offset a big part of the withdrawal of fast-tax-writeoff benefits. Internal Revenue rules now permit a company to use the "declining balance" method of depreciation if it wants to.

Under this method, a company can write off about two-thirds of the cost of new equipment during the first half of its life. This is not as fast as under the five-year depreciation plan, but it is faster than the old method, where depreciation was spread evenly over the equipment's life.

Humphrey believes the "declining balance" method of depreciation will do about as much to stimulate expansion as the five-year writeoff plan, and it will be open to everyone.

While a decision on curtailment is being studied, oil firms may continue to get approval of fast tax writeoffs in several programs where the expansion goal has not yet been met. These include:

- Processing of natural-gas liquids. There is substantial room inside the goal of 1,280,000 b/d capacity.
- Crude and product pipelines. Authorizations up to now are well short of the goal of 34,200 mi.
- Oil storage capacity. The goal here was 1,360,000,000 bbl. of capacity, considerably above what's been achieved thus far.
- Natural gas transmission lines. Mobilization officials say expansion has been "substantially short" of aims: 22,500 mi. of line 16 in. or bigger; 53,100 mi. of smaller line.

Drive by Oil Union Stalls

Last week some cold reality crept into the dream of CIO oil leaders to build "the mightiest union in the U.S.A." Plans for a big organizing push had stalled, and a meeting in Washington of the top union officials failed to get it going again.

Back in Denver after the meeting, O. A. Knight, president of the Oil, Chemical and Atomic Workers Union, was unusually quiet. About all he would say is that "we are going to organize oil and chemical workers wherever and whenever appropriate."

There was no talk, as there was last year by CIO President Walter Reuther, about a well-heeled, all-out assault on companies whose employees have stayed outside the CIO fold.

Lack of funds may be one thing holding up the drive. The union's expenses since the oil-chemical merger have been running as much as $30,000 a month in the red.

There had been talk last year that other CIO unions would help provide funds to finance the big organizing campaign, but none of this has materialized. And there was no indication that Knight had any luck in raising money in Washington last week.

This doesn't mean the union is facing bankruptcy. Knight said the union was still solvent, and that it intended to stay that way "because we've learned that a few dollars in the bank mean a lot when you are negotiating with companies." However, the union's financial situation does indicate it is not now prepared to launch any big membership drive.

Another possible stumbling block may be lack of agreement over where the drive should be concentrated, when, and by whom. Some of the old chemical union leaders opposed the merger all the way and may still be dragging their feet.

A new effort to launch the organizing campaign may be tied in with the union's next drive for a wage hike, because the union's main talking point for a big, powerful union has been that the voice of the independent union is too small to be heard.

Knight was noncommital on when this wage drive might take place. He said the decision rests with the union's bargaining policy committee. No committee meeting has been called, but the executive board meets in Denver, Aug. 8.

Perhaps the underlying reason for the lack of momentum to the union's ambitious organizing drive is this: Company employees appear to be pretty well satisfied with conditions as they are.

Men experienced in union matters say there is no basic dissatisfaction among workers to drive them into OCAW. Pay in the industry generally is very good, working conditions are satisfactory, and there has been a gradual addition of fringe benefits.

One company's industrial relations experts put it this way: "We try to stress to each of our employees that he is an integral part of the company and that his job is important to the company's operations."

For the most part, the companies are playing a careful, cautious game, waiting for Knight to make the next move in his organizing or wage hike drive.

What's New / IN THE INDUSTRY

Monsanto, Lion to Merge

Monsanto Chemical Co.'s plan to acquire Lion Oil Co., subject to stockholders approval Sept. 23, reflects the desire of both basic chemical and oil companies to diversify into the petrochemical field. It is the first time that a chemical company has purchased a large integrated oil-petrochemical company.

The proposed merger provides Monsanto with a much broader position in the agricultural-chemical market—the primary outlet for Lion's chemical division—and gives the company a broad diversification into the oil business as a hedge against future declines in demand for chemical products.

A fully integrated oil company, Lion entered the petrochemical field in 1946 with production of anhydrous ammonia at the former El Dorado (Ark.) ordnance plant. A second plant was completed near New Orleans last year, increasing anhydrous-ammonia capacity to a total of 985 tons daily.

Lion's chemical division now represents about half of the company's total investment and profits from the division accounted for slightly more than half of Lion's net income last year.

Merger of the two companies will result in a corporation with assets of nearly $550 million. Lion will be operated as a division of Monsanto with T. M. Martin, Lion president, as division president. He and T. H. Barton, Lion chairman, will join with Monsanto board.

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The Texas Supreme Court has ruled that bank deposits and other property must be taxed on the same basis as oil and gas property. The ruling upheld D. E. and R. J. Whelan, who contended that assessments on their various properties were discriminatory. The Whelans contended that producing oil and gas properties were assessed on the basis of one-third actual value. If all property, including bank accounts, had been taxed on the same basis, the Whelans figure their payments would be $6,479 less than the $38,879 sought for the three years. The court said there is no question that bank deposits are taxable and added that taxing agencies cannot set arbitrary values or omit classes of property.

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Two Rocky Mountain firms may merge next month to consolidate producing and refining operations. Stockholders of Empire Petroleum Co., Denver, Colo., and Western Empire Oil Co., Thermopolis, Wyo., will vote on a merger proposal in the week of Aug. 22.

Empire operates a 3,000 b/d refinery in Denver; Western Empire owns or has interests in 30 producing wells in Weston County, Wyo., plus undeveloped acreage in Wyoming and Montana.

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Millions of dollars would be made available annually for Texas schools if a proposed "depletion allowance" plan is put into effect for Texas state land. State Auditor C. H. Cavness has recommended to the Texas legislature that only a 27.5% depletion portion of oil and gas income be put into the University Permanent Fund, whose earnings are shared by the University of Texas and A&M college, and the Permanent School Fund, whose earnings go to support all public schools in Texas. Presently, only the interest on the income of the funds can be used. The new plan would require amendment of the state constitution by the voters.

On the Continental Shelf: A Whole

First of Three Parts

History is being made on the Continental Shelf as America's oil operators turn to the sea in their never-ending search for new petroleum reserves. Since 1947, when Kerr-McGee Oil Industries, Inc., of Oklahoma City, brought in the first real "tidelands" oil discovery in the Gulf of Mexico off Louisiana, a big and amazing picture has been unfolding:

- Today more than 45 companies or operators, acting in their own behalf or together in groups, are engaged in exploration, drilling, and production in the Gulf of Mexico.
- Cumulative oil production for Louisiana and Texas offshore areas has passed the 45-million-bbl. mark. Daily oil production off the Louisiana coast has grown to more than 62,300 bbl.; Texas' submerged-lands production now exceeds 650 b/d.
- There have been nearly 300 oil discoveries off Louisiana, plus 34 gas-distillate and 35 gas discoveries. Texas' offshore areas claim five oil discoveries and several shut-in gas discoveries.
- Total recoverable reserves off the Louisiana and Texas coasts is estimated at 15-billion bbl. In comparison, estimated total proved petroleum reserves in the U. S. are 34-billion bbl.
- More than 2.6-million acres are now under lease off Louisiana; more than 639,000 acres are held off Texas. And California has just opened up its state lands for leasing on the Continental Shelf under the Pacific Ocean.

As oil operators venture farther out into deeper waters of the Gulf of Mexico, they find themselves engaged in an entirely new type of business. The whole concept of their day-to-day operations is changing. Drilling a well offshore, once the rig is on a permanent platform, is no different than drilling for oil on land. But getting that equipment out over the water, moving men to and from the job, finding ways to get oil to shore once it is proved—all these are new experiences to landlubber oil men.

Nothing is more fascinating than hunting for oil in the Gulf of Mexico. And as these operators get used to the sea, they suddenly realize that they're no longer tied to the land, but have actually become big-time marine operators.

The detailed planning, the huge expenditures, and painstaking work involved in carrying on an offshore exploration, drilling, and producing operation, are presenting new problems each day which must be solved.

As a result of increased offshore activity, every segment of the petro-

- **At no time since the petroleum industry got its start back in 1859 have operators gambled so much money, skill, time, and effort on any one single venture as they have on the Continental Shelf.**

- **Since 1947 oil men have spent more than $700-million exploring for oil and gas in the Gulf of Mexico off Louisiana, Texas, and Mississippi, and off the California coast.**

- **Returns have been disappointing so far: a mere $125-million on the huge capital outlay. But now, things are looking up.**

- **New discoveries are being brought in almost every week off Texas and Louisiana. California has opened its offshore lands for exploration and drilling; a flurry of new activity is expected there.**

- **Many problems still must be solved—mechanically, conservationwise, and politically. Some offshore boundaries are still in dispute. But the industry now feels it has passed the big hurdle of experimentation offshore. Now it is ready to get down to business, in a diligent search for new oil reserves.**

WHAT THIS WILL MEAN:

TO PRODUCERS, an almost inexhaustible hunting ground for new oil and gas reserves, as operators venture farther out on the Continental Shelf in deeper waters.

TO PIPELINERS, new opportunities as more production is found and new pipelines are laid under water to move oil and gas to shore.

TO REFINERS, assurance of an adequate supply of "native" oil for future needs and expansion, particularly along the Gulf and West Coasts.

TO MARKETERS, a real "cushion" of new reserve oil backing up the refiner to assure him adequate products to meet ever-increasing needs.

TO EQUIPMENT AND STEEL MEN, assured continuance of good business for all types of tools used by the petroleum industry.

New Business Is in the Making

leum industry is going to be affected. Here's what it will mean:

To the producer, a chance to spread out over one of the country's last remaining areas in an effort to prove up huge oil reserves. Nowhere else in the country is there such a huge area so promising for prolific oil production.

To the pipeliner, an opportunity for new laying jobs. He will have his ingenuity taxed to the limit as he seeks ways to lay pipe under deep water, to move the oil and gas to shore. And, if sulfur deposits are proved in large quantities, as seems likely, the pipeliner must design lines that can keep the sulfur hot while it makes its way under the water to shore.

To the refiner, extra assurance of a plentiful supply of crude oil right in the country's back door.

To the marketer, a better business basis for knowing that the refiner has plenty of new crude reserves on which to draw, to make the products the market will need in the years ahead.

To equipment and steel men, continued high rate of business, as oil operators create new demands for more technical and more adaptable equipment to do an adequate job offshore.

The offshore potential is terrific. Operators find it hard to pass up such a tempting chore as finding oil under the sea. Estimates of total oil in place under the Continental Shelf, made by competent geologists who have made a study of similar areas bordering the Gulf, run into astronomical figures—billions upon billions of barrels.

Ben C. Belt, recently retired as vice-president of Gulf Oil Corp.'s Houston production division, thinks the petroleum industry can increase America's crude-oil reserves by at least 20%, through exploration and drilling on the Continental Shelf alone. Within five years, he says, crude reserves could be increased by as much as 6-billion bbl. and natural-gas reserves by as much as 15-trillion cu. ft.

Belt thinks that under present tax laws, providing royalty payments don't go much higher than the customary one-eighth, the oil industry can realize a satisfactory profit from an offshore field with an ultimate recovery of as little as 50-million bbl. He believes the cost of operating offshore will gradually be cut, as better ways are found to get equipment to location, as better-performing equipment is designed and becomes available, and as better ways are found to handle production once it's proved.

The main reason the major compa-

DEEP WATER DRILLING is done from this huge permanent template-type platform off the coast of Louisiana by the CATC Group. It stands in 97 ft. of water, the deepest yet ventured. This setup cost more than $1¾-million. CATC brought in a good oil discovery on this platform last week.

SHALLOW WATER DRILLING is done from submersible barges such as this one, on location in the Mississippi River Delta area. This type operation can be carried out only in depths up to 12 ft. Anything deeper takes one of the new submersible portable-type barges, or a permanent drilling platform.

nies are willing to gamble huge sums of money offshore, and under hazardous conditions, he says, is that the 15-million acres lying on the Continental Shelf under water up to 150 ft. deep are known to contain many structures similar to those lying on land near the water. In a 9.5-million-acre strip along the Texas-Louisiana coast, on-shore, more than 100 interesting structures have been located. They include 62 big oil fields, each making more than 20-million bbl. ultimate recovery. Twenty-nine of these fields will make more than 50-million bbl; 11 will make in excess of 100-million bbl.

It seems logical to assume, then, that if the pay sands continue on out under the water to the 150-ft. depth mark, at least part of these 15-million acres should be as productive as the coastal strip adjoining them.

So operators are willing to spend millions in hopes of finding major fields with total recoverable reserves of more than 50-million bbl. each.

But the risks offshore are terrific, too. On the Continental Shelf, a field with less than a 10-million bbl. ultimate recovery is considered too small to keep. As one official of a large company puts it: "It's just like a fisherman. We have to throw these small fields back in, and try harder than ever to find the really big ones, if we expect to get our money back offshore."

No one has figured the odds against making a decisive discovery in the Gulf of Mexico. The average onshore ratio is about one hit in six to nine wildcats drilled. The record is a little better offshore for average-size fields, but probably won't hold up if the operator has to find fields of at least 50-million bbl. ultimate recovery to pay off. Operators are going after the big salt-dome structures now, in hopes of proving up Miocene sand production on their flanks. But unless they are lucky enough to hit the right flank of such a structure, all their work is to no avail.

Not only must the operator put up with a risky exploration operation, but he must keep his eye out for Mother Nature. More than one costly drilling rig with its expensive equipment has been washed into the sea by Gulf hurricanes.

The cost of probing for oil on the Continental Shelf is tremendous. On land an operator usually thinks in terms of thousands of dollars in drilling a wildcat in virgin territory. But in the Gulf of Mexico an operator has to think of drilling in terms of millions of dollars.

An operator cannot erect an adequate offshore fixed drilling platform for less than a quarter-million dollars. Then his rig, plus all other equipment, must be hauled out to location and lifted onto the platform with expensive-to-use derrick barges. The superduper floating submersible barges, designed especially for drilling offshore, are priced so high that their use is limited to the largest of offshore operators. (Average cost of such a barge: $2-million.)

Since 1947 the petroleum industry has spent more than $700-million offshore. This includes more than $105-million for Louisiana offshore leases, and more than $43-million for Texas submerged lands. But the bulk of expenditures have gone into the equipment and drilling platforms necessary to carry out the drilling operations.

A good sum of money has also been spent in mapping the lands by geophysical crews. Operators in the Gulf have covered more than 70% of the entire Continental Shelf, from the tip of Texas to the mouth of the Mississippi River.

These high costs are the main reason why a number of big combines have been formed. Operators spread the costs of offshore work among themselves; if a big hit is made all share. But if the program falls short of expectations, no one gets hurt too much.

The largest combine is the CATC Group, which is made up of Continental Oil Co., operator; Atlantic Refining Co., Tide Water Associated Oil Co., and Cities Service Oil Co. Each has a 25% interest. This group has been working mostly off Louisiana, and recently formed the first offshore

unit, on federal "tidelands" off Grand Isle, La.

There are other offshore groups, too. Pure Oil Co. is associated with other companies in one group; Magnolia Petroleum Co. and Newmont Oil Co. are associated with other operators in another.

Not only can these groups contribute their cash funds for the tremendous expenditures necessary, but they can get together on technical details, work out problems together.

Returns of the huge capital investment by the petroleum industry offshore have been disappointing, so far. It has been estimated that out of the $700-million already spent, only about $125-million has been returned to the companies who've invested. This points up Belt's belief that only the really big finds on the Continental Shelf will pay out for the operators.

But even with huge oil discoveries, it is going to take time before investors get their money back. This is one reason why most oil operators pool their assets together, or draw from their own resources. Very little outside financial help has been sought so far.

Numerous interruptions and delays in getting into high gear have been partly responsible for the slow payoff. Work was slow in getting started on the tidelands right after the war. And when operators finally got ready to dive in, the federal government stepped in and claimed ownership of the submerged lands. The long wrangle is history, but the Interior Dept.'s moratorium on all new drilling, which extended over many months, held up proper development of offshore lands.

With passage by Congress of the Submerged Lands Act of 1953, the ownership situation (in most cases) finally resolved itself, and operators, confident that the majority of ownership questions had been settled once and for all, went after new leases. But it wasn't until then that they could begin their long-range development plans.

Material shortages in the ensuing years held up a full-scale resumption of offshore drilling following actual passage of the tidelands legislation. These have been alleviated now, however.

Now a new squabble over ownership of Louisiana's tidelands may serve as a further interruption in work on some areas under dispute. And it could easily spread into Texas' back yard, too. Under a Louisiana act passed last year, the state claims it has jurisdiction over lands based on an old Coast Guard "shoreline." In "Act 33," Louisiana says it owns submerged lands out as far as 35 mi. from shore. The Interior Dept., not taking this lying down, asked the Justice Dept. to intervene. The latter went to the U. S. Supreme court to ask that Louisiana's legal boundary be set at 3 mi. from shore. The entire issue now rests in the lap of the court.

Earlier this month, Louisiana got a real slap in the face from operators, when it offered several tracts for lease in the "twilight zone." This is the zone ranging from 3 mi. to 10.5 mi. from shore, which is under dispute between the state and the federal government. Not one solitary bid was received from operators at the Louisiana sale.

But at the federal government's lease sale, held the same day, more than 400 bids were received, some for leases in this same twilight zone.

All this points up the fact that, as a whole, operators feel the federal government eventually will retain absolute authority over all submerged lands more than 3 mi. from Louisiana's shore.

Texas may be affected if the Supreme Court holds the Interior Dept.'s claim to Louisiana submerged lands is valid—if it does it by laying down a general dictum that the federal government owns everything beyond the 3-mi. limit. Up to now, the government has not contested Texas' claim of jurisdiction out to the 3-league, or 10.5-mi. limit.

A few operators have been lucky in spite of all the delays in getting into the offshore play. Their future looks pretty good. The California Co., for example, hit it lucky offshore right from the start. It has become the largest offshore operator, production-wise.

Calco, a subsidiary of Standard Oil Co. of California, holds thousands of acres under lease in its prolific Main Pass and Bay Marchand areas, on Louisiana-owned tidelands within the 3-mi. limit from shore. It also recently acquired sizeable chunks of federal lands in deeper waters farther from shore.

Calco has pioneered in many novel operating ideas, has designed new equipment to cut operating expenses, and now operates the largest offshore field—Bay Marchand.

Calco has been leasing and exploring off Louisiana since 1947. Its daily production now exceeds 24,000 bbl. It invested $7-million in geophysical, leasing, and other activity before it spudded in its first offshore well; by the time it got its first production, it had spent about $9-million.

Magnolia Petroleum Co. is another successful operator, although it didn't enter the offshore play in a big way until a couple of years ago. Its Block 126 field in the Eugene Island area off Louisiana is currently producing 5,400 b/d. Magnolia won't say how much potential reserves are, but some sources say the field will make at least 120-million bbl. before it is depleted.

Shell Oil Co. has been an active operator off Louisiana also. It has had many successes, and has pioneered in new equipment design. Shell was the first operator to install a prestressed concrete production platform offshore.

The CATC Group has found both oil and gas production off Louisiana. It is currently operating from a huge $1.5-million permanent-type platform off Grand Isle, La., in 97 ft. of water. Just last week CATC brought in a good oil discovery at this location. This is the deepest water that operators have ventured out in so far.

Humble Oil & Refining Co., burned earlier in the "tidelands game" when it sank millions in an offshore failure off the Texas coast, is making up for lost time. It has stepped up its Louisiana development program, and now has a large daily production flowing to Grand Isle from offshore platforms. It is reported that Humble has found huge sulfur deposits off the island, and is studying the problem of how to get this sulfur to markets.

Oil operators are past the experimental stage offshore. They're getting down to the every-day business of finding oil now. While the ownership wrangle over submerged lands was raging in Washington, and during the ensuing moratorium on new drilling set up by the Interior Dept., operators were busy conducting extensive geophysical work. After accurately pinpointing and mapping most of the big salt-dome structures, their engineering departments got busy on how to design equipment to drill in deeper waters. Hundreds of thousands of dollars went into preliminary equipment designs, production studies, etc. As a result of this long and tedious search for the proper ways to drill and produce oil offshore, these operators now have their ideas all set on how it should be done.

The main reason operators are raring to go offshore in a big way now is because there is enough proper equipment available to do the job. Innovations in equipment have completely revolutionized offshore drilling.

Some operators have been able to cut their drilling costs appreciably by new designs in equipment. Many are novel.

Calco was the first to design a multiple-hole derrick. Placed on a stationary platform, this drilling rig can drill up to six holes without being skidded. Only the rotary table and crown blocks

AFTER THE RIGS ARE GONE, an offshore producing field looks like this. Each well-head must have a protective jacket to ward off possible collision by boats and other craft. Crews move around the field in service boats to maintain the various wells.

are moved from location to location.

Unique submersible-type barges that can drill in deeper water, then move off quickly to another location, are also in use. Their costs are prohibitive to most operators, but they're pioneering in the field, and operators hope that someday they'll be available at less expense.

Several large shipbuilding firms on the Gulf Coast have been concentrating on fabricating offshore drilling platforms. New piling design and improved corrosion-control and cathodic-protection applications have made the stationary, template-type platform the most-wanted piece of offshore equipment today.

After the first offshore discovery by Kerr-McGee in 1947, operators who wanted to get their feet wet in the Gulf of Mexico were stymied: They couldn't find suitable ships or other equipment to use as tenders for drilling platforms. The only ships available over the next few years were surplus naval vessels. Some operators were fortunate enough—and smart enough—to buy up a lot of old LST (landing ship-tank) vessels. For a time these ships carried the brunt of offshore drilling. Their owners converted them to drilling use, tying them up to template platforms.

Since only a limited number of these ships, and the YF (yard freighter) vessels, were available, the supply was soon exhausted. New tender ships had to be designed from the ground up. And it wasn't an easy task.

Gulf Oil Corp. took delivery last year on the first ship built especialy as an offshore-drilling tender vessel. The CATC Group came along later with three brand-new non-self-propelled ships, made especially for this work. It will soon take delivery on the fourth. Each cost about $1.5-million.

New personnel boats, transport ships for equipment and supplies, improved radio and radar facilities and weather-forecasting methods—all have evolved as a result of offshore drilling and exploration. Use of the helicopter is gaining in popularity, as a method of cutting costs in transporting crews to and from the drilling rigs.

Nowhere in the history of oil has leasing played such a major role as in offshore development. And acquiring leases at sky-high prices can deplete the appropriations kitty in nothing flat.

Off the Louisiana coast, some 2.6-million state-owned acres of submerged lands have already been leased. Another 683,000 acres have been leased by Texas. The federal government also has leased thousands of acres on the outer Continental Shelf off both Louisiana and Texas.

The fantastic lease play has brought more than $105-million to Louisiana, more than $43-million to Texas. Uncle Sam's take so far is $252-million.

And there are still a lot of submerged lands on the Continental Shelf that will someday go under the auctioneer's hammer. About 80% to 85% of the potential oil lands are under federal control, and the government has mapped 12-million acres off Louisiana, and 8-million off Texas as leaseable. Less than 5% of that acreage has been picked up by operators so far.

The spectacularly high bids actually are "bonuses" offered for the leases. Off Louisiana, 20 tracts have each netted the state $1-million or more. Texas has sold six tracts for that amount or more.

But in spite of the high cost for leases, operators buy them up anyway. They don't want to be left by the wayside.

The big offshore operators hate to lose a lease they want, regardless of the margin by which they lose out. Recently one major company had been consistently undershooting on leases by $300,000 to $400,000. So, it decided to up its ante. It wound up biding $1-million more than the nearest competing bidder. But the company was happy, anyway.

Each firm has its own formula on how much an underwater lease is worth. It's based on geophysical information, plus the company's actual element of trying to out-guess the need for new crude reserves. But the element of trying to out-guess the other fellow always slips in, and then the bidding becomes poker-playing at its best. A lot of companies keep refiguring their bids right up to deadline time.

Annual rental on federal submerged lands runs $3 an acre. The government gets a one-sixth royalty on production, and there's a minimum bonus charge of $15 an acre. The bidding goes on from there. Texas also has a minimum bonus, ranging from $5 to $15 an acre, and royalty is fixed at one-sixth. Louisiana has neither a minimum bonus nor a set royalty. Bidding is done on both, and ordinarily the highest bonus bid takes the lease. But occasionally a bidder with a slightly smaller bonus but with a larger royalty offer will get the lease.

Operators plan to develop their holdings as quickly as possible. But development itself is going to bring more problems. Most of the leases run for a five-year period. Texas says it doesn't want to lease any more of its submerged lands than can be adequately explored and developed over the next five years.

There will be many problems facing operators as they find more oil and gas. Right now there isn't much market for offshore gas. But there may be some day. Conservation problems face operators, and it hasn't been decided yet just who will have charge of bossing production offshore on federal lands. These and many other questions will be staring management in the face in the next few months.

In our next two issues, we will report on these and other problems, and tell how operators who are turning to the sea plan to cope with them—as part of the new kind of oil business that's growing up offshore.

Seminole and Florida Wonder . . .

Do Tourists and Refineries Mix?

Public relations can be a real headache to a company planning to build an oil refinery where none has been done before. This may become an increasing problem to the industry as more and more refiners eye rapidly developing marketing areas away from traditional refining centers.

This is being currently demonstrated in a battle shaping up between tourist-minded residents of Florida's east coast and an oil group which hopes to locate there.

Seminole Oil Co. wants to build a 20,000 b/d refinery, costing $16-million, at Ft. Pierce, Fla. But some of the town's residents fear a refinery might stink up the place, drive away money-spending tourists.

The firm had previously got similar receptions at two other Florida east coast cities: Port Everglades, which adjoins Fort Lauderdale, and West Palm Beach, 45 mi. further north.

Even with these setbacks, the company continued to search for a site, for it felt that Florida offered a good opportunity. The state's remoteness from refineries, its continued growth, and its extensive tourist trade all added up to a substantial potential market.

Seminole had tried in advance to find out what the public reaction would be. It sent ballots to all registered voters of the city and of surrounding St. Lucie County. Of those replying, 78% said they would have no objection to a refinery being located there.

Despite this straw vote of approval, the company soon encountered active opposition. The Miami Herald published a three-part story giving the "facts" of the issue. The lead paragraph of the first of the series was:

"This is more than a local story. It is a blueprint of what can happen in your town, or to you, if boosters of heavy industry win out over advocates of a tourist economy."

Opponents of the refinery stressed the danger of air and water pollution —and what it might do to their tourist trade. They said the small number of refinery employees (estimated at from 100 to 200) would not bring in enough revenue to be worth risking the loss of the 25,000 tourists who visited there last year. (They estimate another 150,000 persons stopped at Fort Pierce hotels and motels enroute to vacations further south.)

M. H. Robineau is president of Frontier Refining Co. of Denver, one of the principal backers of Seminole.

Seminole took two major steps to promote community understanding and good will: It promoted a visit of local officials—and a representative of the opposition—to a couple of modern refining plants in other cities; and it pledged to spend $750,000 on anti-pollution equipment. Refinery waste liquids would be treated before being discharged into the Fort Pierce inlet, and waste discharged into the air would be treated to prevent odors.

Some opposition continues to exist, but Seminole still plans to locate at Ft. Pierce unless it is faced with crippling restrictions.

Company officials are acutely aware they will have to continue to stress a public relations program until they are an established part of the community.

Seminole plans to market its entire refinery output in South Florida under its own brand name. The company is contemplating starting marketing operations even before it completes the proposed refinery. Current target date is August 1956—if financial arrangements can be made in time.

According to a spokesman, Seminole is planning to "acquire and construct" about 200 service stations. The spokesman said that Seminole is aiming for 10% of the South Florida market. He estimates the petroleum market in the area has expanded by 10% each year over the past decade.

Sharples Oil Co. has contracted to supply the refinery with 15,000 b/d of low-gravity, high-sulfur (6%) Mexican crude oil. Seminole is also considering a Middle East source of crude. Tankers will discharge crude for the refinery 4 mi. offshore through a 12-in. submarine pipeline.

As it is now projected, the proposed refinery will have a catalytic cracker, a Platformer and a Uniformer, the latter a process designed to improve petroleum distillates by removing sulfur, nitrogen, oxygen and metal contaminants.

Seminole plans to recover about half the sulfur content in the Mexican crude oil for sale to chemical plants in the area. It also plans a high yield of asphalts for the state's big road-building program. Negotiations are underway for a contract with a local electric utility for fuel oil output.

M. H. (Bud) Robineau (picture), president of Frontier Refining Co., of Denver, is one of the principal backers of Seminole. Frontier will be the largest shareholder. It owns 20% of the stock, holds options to acquire another 10%, and has a management contract to operate the refinery. Other organizers of the company are: P. T. Sharples, chairman, and Sam Butler, president, of Sharples Oil, Denver; J. G. Dyer, president of Dyer Drilling Co., Denver; Gerald P. Peters, president of the Denver investment banking firm of Peters, Writer & Christensen; B. L. (Barney) Majewski, president of Great American Oil Co., Chicago; Jansen Noyes, Sr., Hemphill, Noyes & Co., New York investment bankers; and James G. Snyder, a New York sportsman.

NEXT WEEK in Petroleum Week

Oversupplies of heavy fuel have made a habit of plaguing the industry's economics periodically over the past years.

Now, though, it looks as if refiners are well on the road to eliminating "surplus resid" as a problem. It's a significant development—important to all segments of the industry.

For a report on what's happening—and what it means—see the Aug. 5 issue of Petroleum Week.

What's New / IN REFINING

Platformer Being Added

Southwestern Oil & Refining Co., Corpus Christi, is installing a new Platformer unit, one of the largest ever built for an independent. Universal Oil Products Co., of Des Plaines, Ill., is constructing the 9,000 b/d unit, designed to produce 97 clear octane platformate. It is expected to go on stream next year.

The catalytic unit will feature a return column engineered to produce selective fractions of platformate with controlled boiling ranges.

This will enable the firm to meet current high-octane demands and will "cushion" the plant against predicted demand for still higher octanes in the future motor vehicles.

•

Sun's New Unit Shut Down

Sun Oil Co.'s new 30,000 b/d Houdriflow catalytic cracking unit at Marcus Hook, Pa., was shut down this week for revamping, following complaints that it was polluting the air.

The company expects to have the cracker back on stream Aug. 2.

Complaints had reached Gov. George M. Leader of Pennsylvania that the new unit was discharging a "harmful chemical haze" in the area, but Clarence Thayer, Sun vice-president, told the governor the unit was emitting only clay catalyst dust to the atmosphere—a natural substance containing no chemical irritants. Apparenty the presence of odors in the area round the refinery had been associated with the catalyst dust from the cracker, Thayer said.

Thayer said the loss of catalyst had been discovered shortly after the new unit went on stream last month, and equipment has been designed to prevent further loss.

•

Continental Oil Co. is revamping its Billings, Mont., refinery in order to process high-sulfur crude from nearby fields. Two new units, one for gasoline reforming, the other for desulfurization, will be completed about Jan. 1 at a cost of approximately $1 million. The units will enable Conoco to take additional crude from its Montana and Wyoming fields, eliminating shipments of low-sulfur crude to the plant from more distant fields. There will be no change in plant capacity.

•

Gulf Oil Corp.'s new platforming unit at Port Arthur, Tex., now on stream, has the largest unit capacity for catalytic reforming to date. The platformer will catalytically reform 29,000 b/d of side-cut naphtha fractionated from 35,730 b/d of total-charge naphtha. Gulf says it will allow an increase of refinery capacity of higher octane products, namely motor fuel and aviation gasoline. Fluor Corp., Ltd., Los Angeles, was engineer-contractor.

•

American Gilsonite is near the construction stage of its $10-million program to convert Unitah Basin gilsonite into gasoline. E. G. Goodner, president, says bids have been invited for construction of a refinery at Fruita, Colo., and its attendant 80-mi. pipeline to mines at Bonanza, Utah. The black mineral will be converted to both gasoline and metallurgical coke (PW—Jul.8'55,p36). Observers estimate rated output of the refinery will be 5,000 to 7,500 b/d of gasoline.

•

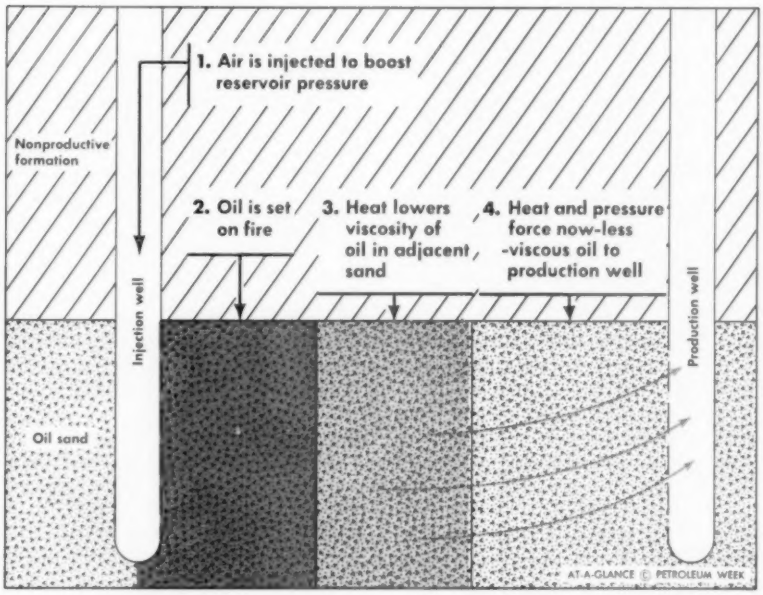
Universal Polychem Co. has been merged into its parent company, Universal Oil Products Co. All manufacturing activities conducted by Universal Polychem at McCook, Ill., and Shreveport, La., will be carried on as a separate division of UOP, Des Plaines, Ill., without change in policies or personnel. The Polychem Division will manufacture various types of catalysts, inhibitors, and other forms of additives.

•

Williston Basin Refining Co., Williston, N. D., has been declared bankrupt. E. F. Anderson, a Williston insurance agent, was named trustee to handle sale of the company's, 1,500 b/d refinery at Williston, by creditors of the company. The plant was opened in May 1954 and shut down eight months later due to insufficient working capital and an unfavorable location for crude-oil supplies (PW—Jul.5'55,p25).

An Oil Field at a Refinery

Cities Service Refining Co. and Quintana Petroleum Co., jointly, have spudded in this wildcat on property owned by Cities Service Co.'s refining subsidiary adjacent to its Lake Charles (La.) refinery. Quintana owns adjacent lease blocks. The test is scheduled for a total depth of 12,000 ft.


1. Air is injected to boost reservoir pressure
Nonproductive formation
2. Oil is set on fire
3. Heat lowers viscosity of oil in adjacent sand
4. Heat and pressure force now-less -viscous oil to production well
Injection well
Production well
Oil sand
AT-A-GLANCE © PETROLEUM WEEK

Lazy Crude Gets a Lift

Oil operators are giving reluctant reservoirs bigger and better hotfoots in an effort to improve production of viscous crude. At least 13 companies are backing new field tests of the so-called "in situ" combustion process.

It has been proved in recent years that setting fire to oil in certain sands underground (in situ, or in natural position) can enable operators to squeeze out the slow-moving, substantial reserves unrecoverable by other methods.

While there's been more smoke than statistics released regarding the economics of the thermal-recovery trials, the experiments have established beyond dispute the effectiveness of bottom-hold burning.

Most publicized of the field tests have been those of Magnolia Petroleum Co., in Jefferson County, Okla., and Sinclair Oil & Gas Co. (with Sinclair Research & Development Corp.), in Nowata County, Okla.

Both showed that porous Pennsylvania sands can be swept clean of low-gravity oils which had defied diverse recovery attempts for as long as 40 years. And they also demonstrated that loss of oil in the burning process is negligible—ranging from 2% to 15%—and that as much as 90% of previously unrecoverable crude could be brought up (the rest is lost in crevices and cavities in the formation).

Magnolia and Sinclair are still working on cost analyses of their respective tests. They will have no final report for about two years.

California is the site of most industry interest in current tests.

Another Socony-Mobil Oil Co. affiliate, General Petroleum Corp., will apply Magnolia's Oklahoma findings to a Tulare zone in South Belridge Field, 36 mi. west of Bakersfield.

The million-dollar project, scheduled to last 2½ to 3 years, has the backing of Continental Oil Co., Esso Research & Engineering Co., Gulf Oil Corp., Honolulu Oil Corp., Ohio Oil Co., Shell Development Co., Sunray Mid-Continent Oil Co., The Texas Co., Tide Water Associated Oil Co., and Union Oil Co. of California.

The experiment will be carried out in the upper portion of the Tulare zone, at a depth of about 700 ft., where 13-gravity oil has been produced to a stage of depletion insofar as primary production methods are concerned.

Apparently also planning underground combustion experiments in California is Standard Oil Co. of California, reported to be lining up an in situ combustion survey at Midway field, near Taft.

Sinclair Oil Co., meanwhile, has started the first "commercial demonstration" of thermal-recovery methods.

The company is following up its Oklahoma field tests with a million-dollar experiment at a field near Iola, Kan.

A company spokesman says the project will be primarily for polishing up its thermal-recovery techniques, but that enough problems have been solved at Nowata to put the new trial on a paying basis.

The company will drill 20 wells in a 60-acre field developed in 1950 and bought recently from R. E. P. Oil Co. Twenty-one wells currently in production there are raising a total of 15 b/d of 26-gravity crude.

Sinclair, incidentally, says it is not interested in crude of lower gravity than that; the company figures it isn't worth the time and money necessary to get it above-ground.

As in its Nowata test, Sinclair will be treating a Bartlesville sand lens, but at a greater depth. The Iola formation is about 800 ft. underground, compared with an average depth of 600 ft. at Nowata. The Kansas field, though, is said to be more "contained," thus more susceptible to combustion control.

Bottom-hole burning is a tricky business. Keeping combustion and heat zones in proper relation is the key to success.

Most thermal-recovery field tests have employed a five-spot well pattern. The central well contains, at outset of the operation, a device to ignite crude at formation depth. Four production wells surround the injection well at equal distances. From four to eight observation wells (back-filled after installation of heat-registering instruments) complete the pattern.

Air or oxygen-containing gas is injected into the reservoir, to permeate the oil-bearing sands and to insure combustion. After the igniter is turned on, start-up fuel and a portion of adjacent crude are consumed by fire. The igniter is then turned off, but air or gas injection continues.

The resulting heat makes other adjacent crude less viscous and thus more mobile. Both the heat and the pressure of the air-stream force it toward the production wells.

The hot oil leaves in its wake a slight deposit of coke or other residual solids which, in turn, serves as fuel for the advancing combustion front.

Sinclair reports that a temperature of 700F is what it considers optimum for moving crude through the sands without causing too much cracking.

Chief drawback to development of in situ combustion thus far has been cost fears and site limitations.

Several oil-company executives re-

fuse to use thermal-recovery methods; they say the expense of large compressors, and other costs incidental to maintenance of high reservoir pressures over a prolonged period, are too high.

Still others point out that it takes an almost "special" sand formation, permeable enough for combustion and sufficiently small and contained to make proper use of combustion and pressure procedures, to make the in situ method feasible.

The fact remains, though, that there are many fields susceptible to thermal-recovery development. When and if the combustion techniques become commercially practical, the entire industry will have to take notice.

California, for example, has many oil zones of the type to be ignited at South Belridge. Any commercial success in the General Petroleum experiment would probably lead to widespread use of the system there.

And certainly any big increase in production of low-gravity crude could lead to a change in refining, transporting, and marketing circles, possibly all over the world.

Thus, while it will still be dangerous to light a match near a drilling rig, it may soon be popular to drop much hotter devices down the hole.

And the results won't be arson, but a sure-fire lift for a lot of valuable "lost" barrels of crude.

Politics Stymie Alaska Leasing

Efforts to open northern Alaskan public lands to private oil and gas development have run head-on into Washington politics.

The Interior Dept. was leary of making the move; it feared Democrats might label it another Republican "giveaway." So the department wrote four congressional committees, asking their views.

Democrats on the committees took this as a slick political maneuver. They said Interior had authority to take action without congressional sanction and was trying to pass the buck to the Democrats.

The committees—the Armed Services and the Interior & Insular Affairs Committee of each house—have not yet replied officially. When they do, it probably will be to toss the problem right back into the Interior Dept.'s lap.

The Interior Dept. does not want to act on its own. So the prospect is for no action at all—at least until after next year's elections.

The land now is reserved under Public Land Order 82, a wartime measure taken in January, 1943. The proposed plan would open 20-million acres for private development, subject to mineral leasing laws, which require competitive bidding for leases of mineral rights within a known geological structure of producing oil and gas fields. Other areas would be leased for exploration and development.

Two other areas in Alaska were also reserved back in 1943, but both now have been opened. Private firms, including Phillips Petroleum (in conjunction with Kerr-McGee), Standard of California, Shell, and several independents, now are prospecting there.

In 1944, the Navy began a petroleum exploration program in Naval Petroleum Reserve No. 4, which lies adjacent to the reserved area. This program was suspended in 1953, but the Navy was reported to have located substantial quantities of oil and gas within or near the reserve.

What's New / IN PRODUCTION

Deep Pelican Well to Test

Gamma ray and neutron surveys were being run last week in Louisiana's deepest well. Richardson & Bass et al 1 LL&E-Humble "L," a wildcat in Plaquemines Parish being drilled from a submersible barge in marsh country, is bottomed at 19,752 ft. The crew previously had run and cemented a 7-in. liner to total depth, one of the deepest cementing jobs ever accomplished. Following the electrical surveys, the crew was to perforate for production tests. Just where the perforation interval would be made was not revealed.

The well is 35 mi. southeast of New Orleans, and only a few miles from Lake Washington field in the Mississippi River Delta.

Richardson & Bass has reported gas-condensate shows as deep as 19,035 ft. If the well is completed at this depth, it will be the deepest producer in the country. This record is now held by Humble Oil & Refining Co. with its 2 Rita Provost-Minvielle, Weeks Island Field, Iberia Parish, La. The well is producing gas-condensate from 17,530-54 ft.

•

Voss Entering Wyoming

Voss Oil Co., Seattle, plans to enter natural-gas operations in Wyoming and will soon launch an exploration program. The company has elected Dale H. Voss, former president, to the new position of chairman of the board. His son, Warren Voss, has been named director, president, and general manager.

Voss Oil, in conjunction with Wyton Oil & Gas Co. and Rosebud Oils, Inc., have former Tri-Co-Gas, to operate a new half-million-dollar natural-gasoline plant at Cheyenne River, Wyo. Both Wyton and Rosebud have oil and gas wells in Wyoming.

Harry M. Knight, formerly of Tacoma, has been named manager of Tri-Co Gas, which is reported to have a contract for all butane and propane it can produce. Voss Oil has 79 oil wells which produced 67,000 bbl. in June.

•

Lease Sale Disappointing

The Montana Land Board wound up a two-day auction of state school lands last week, admitting the sale didn't go over half as well as was expected.

Bidders paid a total lease rental of only $486,421 for 81,730 acres. The board had expected at least $1-million to go into the state coffers as a result of the sale. There wasn't much enthusiasm at the sale, either. Many of the tracts went for the state's minimum price of $1 an acre. Some tracts near production, however, brought a price up to $31 an acre.

Top bid of $290 an acre was paid by DeKalb Agricultural Assn., Billings, for a tract in Yellowstone County northeast of Billings.

•

Alberta Well is Testing

Canadian Fina Oil, Ltd., will make further tests this week at its apparent gas-condensate discovery in the Whitecourt area of Alberta, in an effort to complete the wildcat as an oil well.

Results of the latest drill-stem test of the D-3 Devonian reef zone showed a wet-gas flow of 9,600,000 cu. ft. daily, with 450 ft. of very light gravity crude oil, from 8,384-403 ft. On the initial drill-stem test from 8,366-85

ft., the well recovered 540 ft. of clean condensate plus 360 ft. of condensate and water cushion, with maximum gas flow of 3,040,000 cu. ft. daily.

According to reports, Canadian Fina will cap the well if it proves to be capable only of gas production, because there is a lack of local markets. But if the well is completed as an oiler, it would open up another new Alberta area between Sturgeon Lake field and the Edmonton district fields, and touch off a drilling play.

The apparent discovery is 110 mi. northwest of Edmonton, and 70 mi. southeast of Devonian production at Sturgeon Lake. Stanolind Oil & Gas Co. and Hudson's Bay Oil & Gas Co. are participating in the venture.

•

Canadian Oil Would Help

California would depend on Canada to supply most out-of-state crude and products in event of war, an Office of Defense Mobilization official told a House of Representatives subcommittee last week. The subcommittee is looking into the needs for a possible new crude-oil pipeline from West Texas to California.

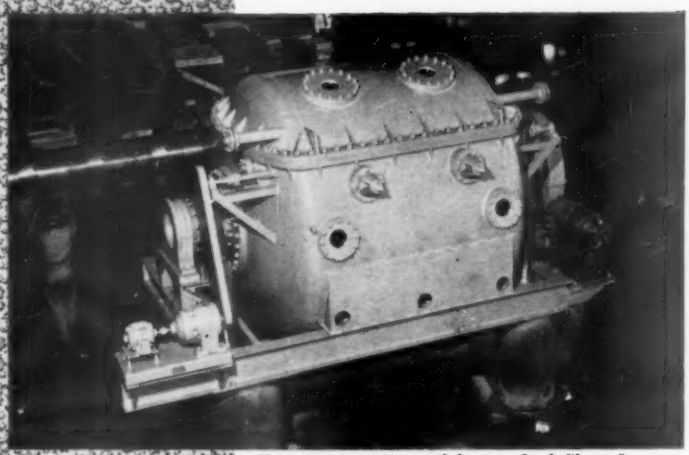
Arthur S. Flemming, defense mobilizer, told the House Armed Services Subcommittee that in a peak war period, crude oil supplies would come largely from California's own oil fields, but most of the balance would come from Canada.

•

Kin-Ark Oil Co., El Dorado, Ark., has acquired full oil rights to 10 oil-producing leases, and increased to 85% its ownership in four other oil properties in Union County, Ark. Curtis A. Kinard, president, said the lease acquisitions affect 18 oil wells that produce about 225 b/d. Estimated production life of the leases is 15 years. Kin-Ark plans to drill 25 or 30 new wells on the properties.

•

New oil-field line pipe made entirely of aluminum is now being made in quantity by Kaiser Aluminum & Chemical Corp., Oakland, Calif. The pipe employs quick-connecting, detachable couplers which enable an oil-field crew to install or take it up on location in one-sixth the time required to lay or take up standard steel pipe. Operating installations have been made for fuel and water-supply lines on numerous drilling rigs operating in the Southwest and Midwest. It is expected to find uses in secondary-recovery work by salt-water injection.



Eimco pressure top and bottom feed filters for dewaxing and other difficult filtration problems.

Eimco Shelley type pressure filters for emulsion breaking, polishing, boiler feed water.

Eimco open or closed pre-coating type filters for polishing, slop oil and other recovery work.

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B-133

1 The heavily-laden "Arthur M. Anderson" makes her way slowly to ore unloading docks. Awaiting her arrival is the "Sinclair-Gary" (foreground), Sinclair Refining Co.'s bunkering vessel. As soon as the "Anderson" ties up, the "S-G" will begin refueling.

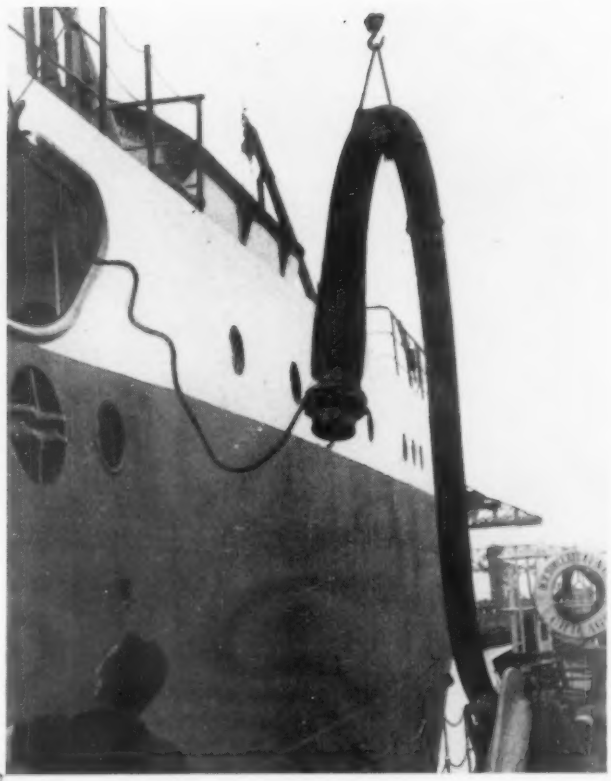
Seagoing 'Service Station' Cuts Ship

4 An "Anderson" crew member opens the valves to permit fueling to begin.

5 In the meanwhile, the task of unloading the ore from the "Anderson" goes on without interruption or delay. Total refueling time: about two hours.

2 An "S-G" crewman heaves a line aboard the "Anderson." Another line forward will keep the ships secured.

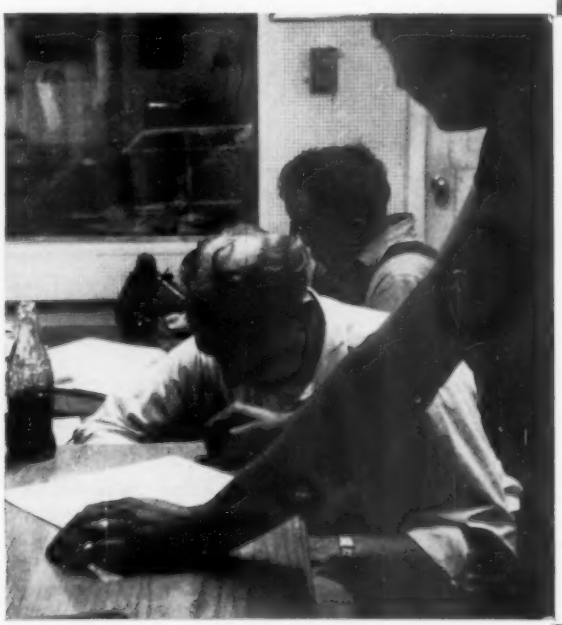
Refueling Time



3 The flexible fueling hose is hoisted into place.

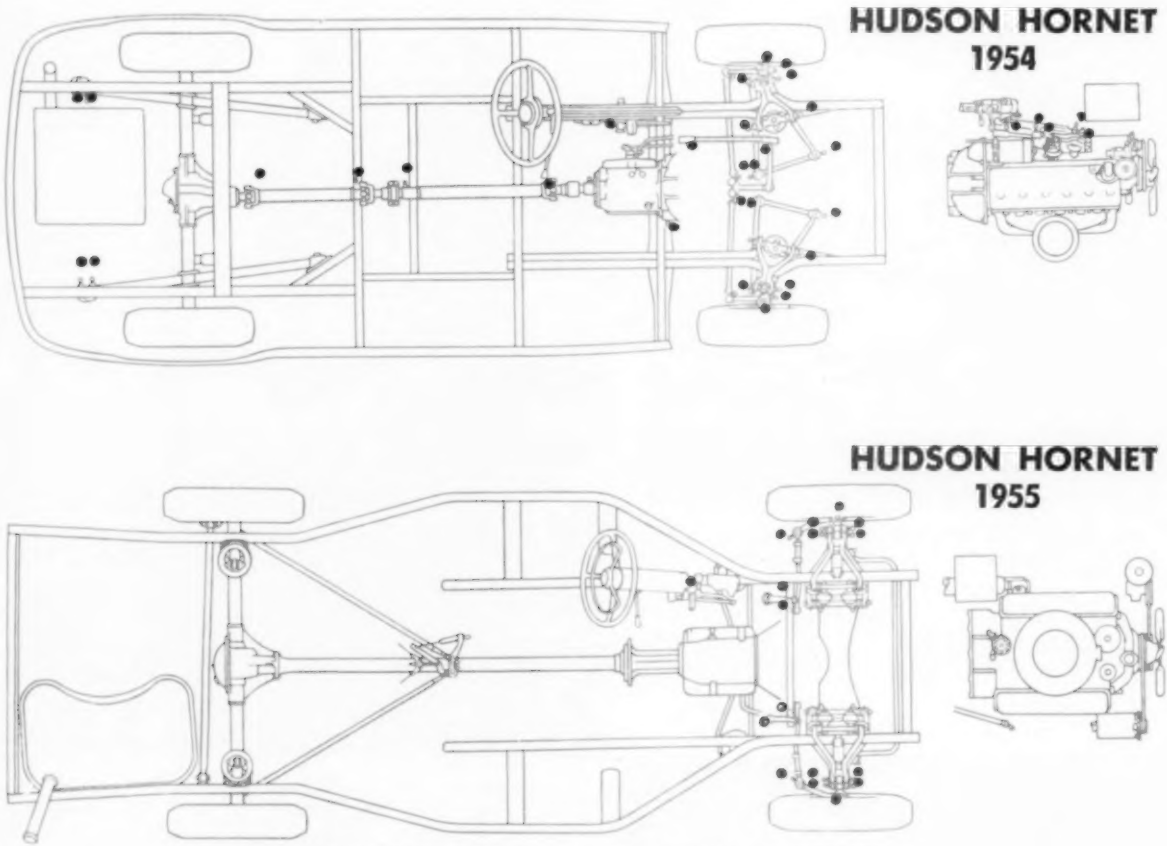
A NEW SEAGOING "service station" is aiding Great Lakes ship fleet owners to cut costs and increase ship sailing schedules. These results already have been demonstrably proved by the "Sinclair-Gary," owned and operated by Sinclair Refining Co. The "S-G" was commissioned June 1 as a bunkering vessel to operate in the south end of Lake Michigan, the first ship of its kind to deal exclusively with the refueling of lake vessels.

The "S-G" requires only about two hours to refuel an ore boat, compared with five to six hours under usual methods. This time-saving adds up to two additional trips a season for an ore boat. In about six weeks of operation, the "S-G" has carried out 31 bunkerings of approximately 40,000 gal. each. Estimates are that it will pump some 6-million gal. before the lake season ends.



6 There's always some paper work. Officers from each vessel check figures, sign vouchers.

7 Refueling done, "S-G" pulls away as unloading goes on.



FEWER GREASE FITTINGS on newer cars are a major reason why the . . .

Chassis Lube Market Is Slipping

The automotive industry is posing an increasingly serious threat to the chassis lubrication market.

The car-makers are doing this through the simple expedient of cutting down the number of grease fittings on a car, or by turning to centralized grease systems requiring but a fraction of grease used by conventional systems.

Here's the year-by-year picture:

Year	*Grease Fittings Per Car*	*Grease Per Lube Job (oz.)*	*Grease Per Car Per Year (lb.)**
1950	24.3	8.5	5.3
1951	24.0	8.4	5.2
1952	23.6	8.3	5.2
1953	23.3	8.2	5.1
1954	20.4	7.1	4.5
1955	17.7	6.2	3.9
1956	16.9	5.9	3.7

**Based on an average of 10 lube jobs per car per year.*

A look at statistics quickly shows what's happening. The 1956 cars, for example, will have an average of 16.9 grease fittings per vehicle and use an average of 5.9 oz. of grease per lube job, or 3.7 lb. per year. This compares with an average of 24.3 fittings per car in 1950, 8.5 oz. per lube job, and 5.3 lb. per year.

Because of the big increase in the number of cars on the road, the total amount of chassis lubricant used has continued to increase. In 1950 it amounted to 194.7-million lb.; this year it's estimated at 246.6-million lb. But the estimates for 1956 indicate that only 244.9-million lb. will be used that year.

It's important to note that the over-all rise in use of chassis lubricant has been well below the corresponding increase in the number of cars on the road. The only reason it hasn't actually declined is that the number of new cars represents only about 20% of the total car population, and the older cars on the road still have a lot of grease fittings. But as the percentage of old cars decreases, and newer models with fewer grease fittings increase proportionately, the decline in total use of chassis lubricant will be marked.

Auto makers blame the oil industry for part of the drop. They charge (1) that many service stations do sloppy lube jobs, and (2) that present lubricants are not adequate.

Automotive men say inadequate lubricants and sloppy lubrication jobs by service stations force car makers to develop designs which either require no lubrication or are factory-sealed. They point out that cars are not being greased as often as they should, and often many fittings are not touched at all. The fewer fittings there are, therefore, the better the

chance all the fittings will be serviced adequately.

L. J. Kehoe, Jr., of the structure and suspension development section of General Motors' engineering staff, stressed the problem in a report given recently before the Society of Automotive Engineers at Atlantic City.

Kehoe claimed that the oil industry's failure to produce an adequate chassis lubricant is to blame for the trend toward fewer grease fittings on cars. He said that when independent front suspensions were introduced in the early thirties it became evident that the usual lubricants were inadequate so far as meeting the supposed greasing schedules set up.

Several attempts were made to overcome the problem, Kehoe said. "But the most successful method was, and still is, to use 'correction No. 1,' which consists of walking away from the problem and pretending it doesn't exist."

He added: "So far as I know, there is no generally distributed grease capable of completely adequate lubrication of bushings, king pins, or metallic joints." As a result, he continued, many auto makers have substituted such items as rubber shackles and eye bushings, requiring no lubrication.

"The rubber shackles and eye bushings are somewhat less well suited than a perfectly lubricated threaded bushing," Kehoe continued, "but they present the very attractive feature of being installed and forgotten."

J. F. McGrogan, of Atlantic Refining Co., told SAE that road tests show a 1,000-mi. lubrication frequency is important since a large increase in driver complaints beyond 1,250 mi. of operation is found.

Data compiled by auto companies in proving-ground tests show that under adverse weather conditions, drivers can detect some parts functioning stiffly after only 25 mi. to 50 mi. of driving. Even under ideal weather conditions, the effects of a lube job begin to wear off as early as 250 mi.

The trend toward fewer grease fittings on new cars looms as a barrier which the oil industry will find it hard to hurdle.

Chronologically, here's how the auto lube fittings picture has changed since 1952:

1952—Lincoln adopted its ball-joint suspension. The number of grease fittings dropped from 28 in 1951 to 13 in 1952. Nash changed its front-end suspension, and total number of grease fittings dropped from 22 in 1951 to 14 in 1952.

1953—Studebaker made the biggest change, models that year having 23 fittings as against 32 the year before. Pontiac dropped from 28 to 23.

1954—Ford and Mercury both adopted ball-joint suspension systems. Ford's fittings dropped from 26 in 1953 to 14, while Mercury went from 28 to 16.

1955—Chevrolet joined the ball-joint suspension trend and the number of lube fittings dropped from 25 in 1954 to only 10. Chrysler dropped four fittings from its line. Hudson, adopting the Nash suspension system, went from a high of 33 fittings in 1954 to only 16 this year.

1956—Only two models report changes in chassis lube fittings—one dropping nine fittings and the other two. Both are fairly high-volume cars.

Even though development of better greases can slow the downward trend in the chassis lube market, it won't completely halt it. That's why many oil men question the wisdom of spending thousands of dollars to develop new and more expensive products for a diminishing market.

Yet there is evidence that oil companies have not quit their research toward development of better lubricants. There still remains a period of perhaps 15 to 20 years before the auto industry replaces the present car population with automobiles which will have virtually no fittings.

Automotive engineers say the ultimate objective is a "dream" car which requires no lubrication in the field, except engine oil changes.

A chassis engineer contacted by PETROLEUM WEEK said his company is striving to eliminate more lube fittings from future models. He said the objective is to eliminate all grease fittings, eventually.

But he would not predict when that might happen, explaining that many problems must be overcome. He cited, as an example, the problem of developing lubrication seals which will last the life of the car.

"For the convenience of the car owner," he said, "auto companies find it desirable to design autos so they will require as little field service as possible. Design of a car that needs no lubrication in the field, except engine oil change, would be a car maker's dream. If we can't succeed entirely, we certainly hope to come close to the mark."

The fuels and lubes man in another company says there is continuing research to develop new designs and components which will not have to be lubricated once the car leaves the assembly line. These include new type suspensions, more rubber shackles and eye bushings, and factory-sealed and lubricated parts.

Introduction of a centralized lubrication system on some cars this year presents further problems to the oil industry.

What fee, for instance, will a service station charge for servicing a Lincoln or Mercury equipped with a Multi-luber, as the systems are called, when he has very little lubrication to take care of other than oiling the door hinges and a few points on the engine? The customer will hardly pay the same price for this as a complete lube job.

Though only Lincoln and Mercury offer Multi-lubers as optional equipment so far, other companies are known to be considering the system as an option on future models. As more and more models approach the 12-fittings-per-car mark (the maximum a Multi-luber can handle), the more chance there is of this happening. Both Lincoln and Mercury report good customer acceptance of the Multi-luber, with about 50% of the Lincolns sold being so equipped, and better than 10% of the Mercurys.

With constant driving, an average car equipped with a Multi-luber would use only about 1 lb. of grease a year, compared with the approximate 4 lb. for 1955 model cars.

But the threat of Multi-lubers to the chassis lube market may be more apparent than real. GM's Kehoe, speaking at the SAE meeting, declared:

"I personally do not feel that so-called automatic greasing systems are the answer. The added complications of a multiplicity of parts, susceptible to damage, in order to introduce a lubricant that was not adequate in 1955, does not strike me as being the answer. A superior lubricant introduced at less-frequent intervals should be the goal."

It is likely that oil companies will seek to cushion the dropping chassis lube market by seeking new outlets for industrial greases.

Virtually all majors and independents manufacture both automotive and industrial greases. If they want to keep up their grease production, they will have to turn more and more to the industrial market.

But the outlook for increased industrial outlets is not too bright. These markets have a limit, and each oil company can hope for only so much of the business.

The growth of the Multi-luber market also offers potential revenue to oil companies. Standard Oil Co. (Indiana) told SAE that it now has available a new rheopectic grease designed specifically for Lincoln Engineering Co.'s Multi-luber.

Other oil companies can be expected to develop similar lubricants, even though the present market is small. But it is a market.

Calouste S. Gulbenkian, the near-myth middleman of international oil, always said he'd live to 106. He died last week, 20 years short of his goal. International interest now centers on his son . . .

Nubar S. Gulbenkian, a man widely different from his elusive, publicity-shy father. He's been pretty much in charge of the Gulbenkian oil interests in recent years. But now the question is . . .

What Role for 'New' Gulbenkian?

A "new" Gulbenkian—Nubar Sarkis Gulbenkian—this week became the center of a mystery almost as great as that surrounding his "mystery-man" father—Calouste Sarkis Gulbenkian.

The question: Is the "young" 60-year-old Nubar being frozen out of control of the huge fortune amassed by the fabulous "Mr. Five Percent?" It began to look that way.

Following the death in Lisbon last week of 86-year-old Calouste Gulbenkian, lawyers announced that the "vast majority" of his fortune—estimated in the billions—had been left for creation of a "Gulbenkian Foundation" in Portugal, to be used for charitable, artistic, educational, and scientific purposes. What will Nubar get? The lawyers wouldn't say, other than that "important legacies" were left to the family to enable them to live a "regal life."

Will Nubar be left in charge of administering the famous 5% share of Iraq Petroleum Co.—either through the new Foundation, or some other route? The answer was still far from clear this week.

No one knows exactly the extent of the late Calouste Gulbenkian's involvement in international oil properties, but they are believed to be enormous. In the Middle East alone, his rights in the oil reserves of Iraq Petroleum Co. and its associated companies amount to something like 1-billion bbl.

A British subject like his naturalized Armenian father, Nubar Gulbenkian had been managing his father's business interests in London for some years.

He started as his father's office boy in London after leaving Cambridge. He copied letters, addressed envelopes, answered telephones; his father wanted him to start from the bottom. For many years he served also as honorary commercial attache in the Iranian Embassy in London.

The relationship between the aloof and unostentatious father and his gregarious and spendthrift son was stormy. A quarrel even led to London's law courts in 1940, when Nubar sued his father for a percentage of his profits. He thought better of it, withdrew the claim four days later.

Nubar's Georgian mansion in Buckinghamshire—unlike his father's Paris home—is simply furnished—but his attire is sometimes electrifying. It's always dapper but it includes some exotic touches. His black beard is parted in the center, he wears a monocle, and he is never without an orchid in his lapel. At the Pytchley Hunt once, an English noblewoman remarked: "Young man, one does not usually wear orchids when one hunts in England." His rejoinder: "Nor, madam, is it usual to see Armenians hunting in England."

The noted Gulbenkian firmness and persistence are also apparent in Nubar. Some 20 years ago he was seriously injured in a plane crash. Two other passengers were burned to death. On the day he was released from the hospital, the younger Gulbenkian, still swathed in bandages and accompanied by a nurse, chartered a plane and flew over the disaster scene. When the plane dipped over the charred spot, Nubar leaned out, looked, then waved the pilot to return to the air field. "It's all right," he said, as he got out of the plane. "Just wanted to see how the nerves stood up. Everything is fine."

Another anecdote reveals the young Gulbenkian as a man who will stand on his rights for principle's sake. A knee operation in 1950 kept him off his job a week as commercial attache at the Iranian Embassy. He requested 26 shillings ($3.64) sick benefit under the British national health scheme. The insurance officials raised an eye-

brow, noting his Ritz Hotel address in London. Nubar pressed his claim. "Of course I don't really need the money," he remarked, "but I don't think the country will go broke for that much."

Calouste Gulbenkian was never an "oil man" in the strict sense of the word; he was never involved in actual production or sale of oil. Financing and middleman operations were his forte. What he sold primarily was services; what he invariably got was profits.

Calouste Gulbenkian had started working on oil deals in London while in his twenties. He emerged as a major stockholder in the 1907 merger of the Royal Dutch and Shell interests, a group he broke with in 1926.

But his greatest claim to fame was acquiring the original oil concession rights to Mesopotamia (now Iraq) from the Turkish government, prior to World War I. He helped set up Turkish Petroleum Co. to exploit the deposits. When this company was reformed and reorganized as Iraq Petroleum Co. after the war, Gulbenkian ended up with a 5% share. It turned out to be his pot of black gold—the start of a fabulous fortune.

Pemex Steps Up Drilling Goal

MEXICO—Petroleos Mexicanos is scheduling a 1956 drilling program calling for 750 new wells—more than double this year's goal. But independent observers doubt if Pemex can finance such a jump.

If Pemex hopes to reach production of 500,000 b/d in 1958, a goal mentioned by Pemex Director Antonio J. Bermudez several months ago, it would certainly have to step up drilling markedly. The 1955 program is aimed at 365 new wells, of which observers believe 325 will be completed. Pemex had said it hoped to be producing more than 300,000 b/d by the end of 1955. But present production is estimated at about 238,000 b/d (which is just about double Pemex production in 1945, when Bermudez took over). Private sources figure it's unlikely to top 250,000 b/d by the end of the year.

While Pemex plans to do more wildcatting in the next two years than it has in the past, most of next year's drilling will be concentrated on areas of recent discoveries and in some of the older ones that have not yet been drilled up. The field discovered in the past year near Tecolutla, Veracruz, Pemex says, will be drilled to the full extent permitted by good engineering practice. Seven wells are reportedly already in production. Private sources say that, with 80-acre spacing, some 40 to 50 wells could be drilled to produce an estimated 100,000 b/d.

Pemex' main problems, observers say, are lack of proper refining capacity and cost of imports of refined products, rather than production. For instance, there is said to be a total lack of refining capacity for crude of 20 to 22 degrees gravity, a type found in the Ordonez fields east of Poza Rica. Mexico also lacks a refinery of the coke-processing type.

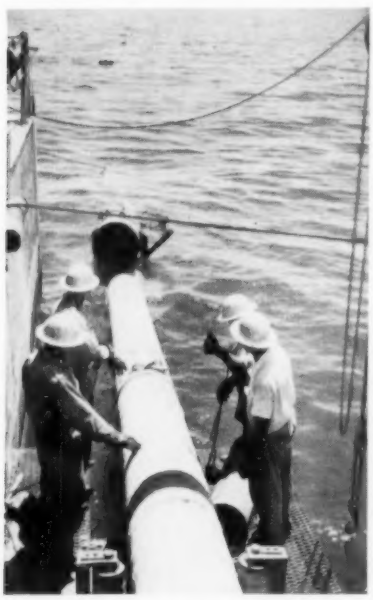
Pemex imports of gasoline, gas oil, and fuel oil from Texas and California may amount to about $70-mililon this year. These products are being brought in to feed industrial and agricultural centers in northern Mexico. But a 350-mi. pipeline now under construction from Tampico refineries to Monterrey is expected to eliminate the need for some of these imports after its completion late this fall (PW—Jul.8'55,p52).

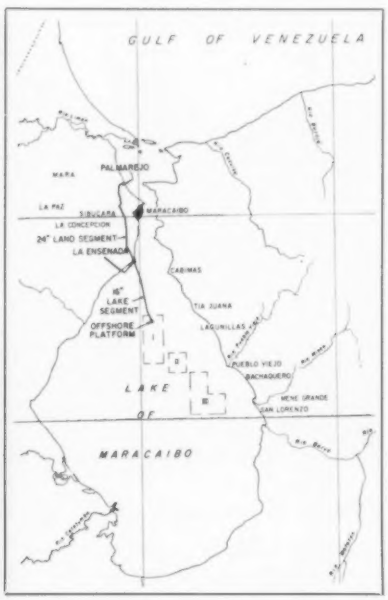
Pemex' reported lack of funds is said to stem from three causes: (1) depressed prices of petroleum products controlled by other branches of the government; (2) need for selling much of the crude and fuel oil at a discount from world price because of impurities; and (3) the import problem.

If Pemex should decide to concentrate everything on drilling the 750 new wells scheduled for next year, private sources say, the principal trouble would still not be solved. But by taking care of the refining problem, they say, Pemex would at the same time alleviate its import problem.

This year Pemex has been carrying out a $100-million development program to increase refinery and pipeline facilities. And indications are that it will be continued in order to meet domestic demand for refined products.

Refinery projects already completed, or now under construction, under the 1955 program include: a new lube plant at Salamanca; new installations at the Atzcapotzalco refinery near Mexico City, doubling its capacity to 100,000 b/d; expansion of Poza Rica facilities; and addition to the Minatitlan (Veracruz) refinery, increasing its capacity to 65,000 b/d; a gas absorption plant at Reynosa (Tamaulipas); and new units for the refinery there.





New Pipeline in Venezuela

Shell's $7-million, 45-mi. pipeline from Lake Maracaibo, Venezuela, to Palmarejo is now in full operation. The "Lapline" connects Compania Shell de Venezuela concessions in the lake with the company's loading terminal at Palmarejo.

The line starts in 70 ft. of water from a platform set up in the lake and consists of two sections. The first is 16 in. in diameter, 18⅓ mi. long. It's laid along the lake bed on a rising incline to land at La Ensenada, where it connects with the second section, a 24-in. line. This runs 26½ mi., terminating at Palmarejo. Rated capacity is 100,000 b/d. From Palmarejo the crude is taken to Cardon refinery.

Iraq Oil Goal Seems Too Optimistic

IRAQ—Government sources here are confidently predicting a jump in Iraq's oil production to 1-million b/d within three years—but it looks as if they are considerably over-optimistic.

Numerous statements have been appearing in the Iraq press recently quoting responsible government officials as saying that Iraq Petroleum Co.—owned jointly by British, Dutch, American (Jersey Standard and Socony), and French companies—would jump its oil output from last year's 600,000-b/d rate to 1-million b/d by 1958.

Baghdad circles are looking for a corresponding jump in the government's oil revenues to well over £100-million ($280-million) annually in three years.

This year's oil revenues are running higher than estimated earlier. The government has just received £18.2-million ($51-million) in payment for the second quarter from IPC and its associated companies. This brought oil revenues in the first half of the year to £35.8-million ($100.2-million).

Iraq's total oil income is expected to top £73-million ($204.4-million) in 1955. This represents more than a five-fold jump in oil revenues in four years—which may explain why the Iraqi taste for increasing oil payments may have become habit-forming.

Last year, Iraq's oil income came to £68.5-million ($191.8-million).

Iraqi predictions of a large increase in oil production in the next three years are based partly on their expectation that oil shipments to the eastern Mediterranean will be increased by 320,000 b/d by two pipeline projects:

- Looping of the existing northern 30-in. pipeline from Kirkuk, to increase its flow by about 160,000 b/d.
- Diversion of the inactive two southern pipelines from Kirkuk, which now terminate in Israel, (capacity of roughly 160,000 b/d), by adding a new line branching off at Marfak in Jordan and terminating at Sidon in Lebanon.

However, only one of these projects is being actively considered by the oil companies now.

Originally, IPC agreed to divert the two inactive southern lines. But it ran into great difficulties with Syria. The latter is still in a hassle over its demands for 50-50 split in profits on oil pipelines crossing Syria. And it has held up transit permits for the proposed diversion line pending settlement of its demands. This project, consequently, has been shelved for now.

IPC has scheduled expansion of the northern line, instead, as an alternative measure.

Informed oil quarters doubt there's any chance of settling the Syrian issue, and diverting the lines, and putting them into operation—all within three years. In any case, even if the lines were diverted, this still wouldn't automatically increase the amount of oil IPC would be ready to send to market. More likely, it would merely cut down part of the extra oil that would be shipped through the expanded northern line.

Iraq government sources are also talking of an expansion in production in the Basrah and Zubair fields near the Persian Gulf to 260,000 b/d within three years (from last year's 90,000 b/d). This, too, seems premature.

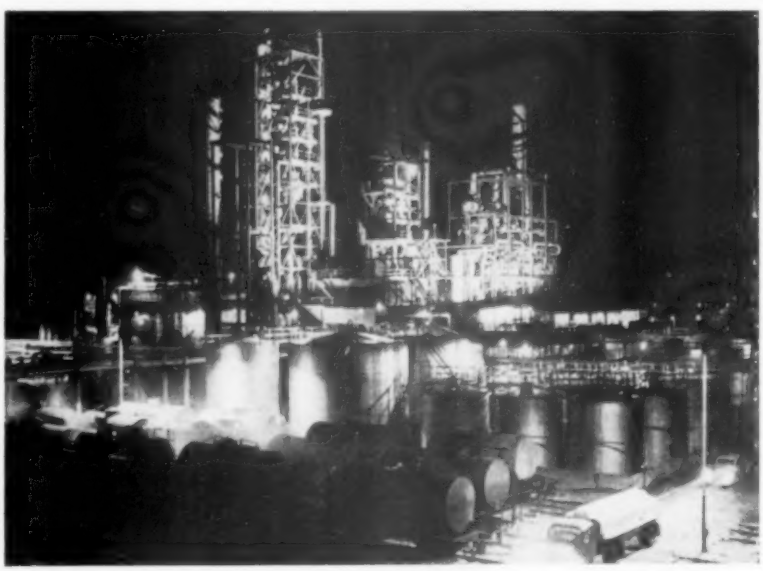
The government's estimates here are based on plans to persuade:

- IPC's Basrah affiliate to build a new terminal port capable of receiving the big new tankers.
- The Kuwait government to agree to the possibility of building an Iraq pipeline through Kuwait to a port north of Ahmadi, in return for providing Kuwait with a water pipeline from Iraq (PW—Jul.15'55,p29).

Both of these discussions are only in the exploratory phase. Neither is likely to materialize within three years.

Informed oil circles believe that the 1-million-b/d mark isn't likely to be attained before 1961, at the very earliest.

They point out that the minimum commitments made by IPC and its associated companies to the Iraq government call for exports of only 600,000 b/d by next year. With world markets presently glutted with oil, they say, it is highly unlikely that exports would exceed these rates by any large volume.



Shell Expands Its German Refinery

Major expansion of its refining facilities in Hamburg-Harburg (above) has been set by Deutsche Shell A. G., German subsidiary of Shell. Capacity will be raised from 14,000 b/d to 52,000 b/d at a cost of between $43-million and $48-million.

Plans call for a catalytic cracker, a hydrodesulfurization plant for diesel oil, and a second Platforming unit. The first Platformer, already under way, will open early next year.

Present West German refining capacity totals 240,000 b/d, of which Esso provides 18%, British Petroleum 12.5%, Shell 8%, and Vacuum Oil Co. 6%. Last year's refinery throughput was 172,000 b/d, a 35% increase over 1953. However, foreign trade in finished oil products still showed a small deficit, with exports at 13,000 b/d, imports at 18,000 b/d.

Some 30% of the country's crude needs are supplied from West Germany's own fields, where last year's output of 54,000 b/d is expected to rise to 60,000 b/d in 1955. Main crude oil imports last year were from Saudi Arabia (50,000 b/d), Iraq (32,000 b/d), and Kuwait (22,000 b/d).

What's New / ABROAD

Charge British "Smell" Oil

EGYPT—Yemenite diplomat in Cairo last week charged oil was behind current disturbances between the British and rebellious Aden tribes in southwest Arabia. But most Middle East observers feel the disturbances are more likely a reflection of Yemen's hostile attitude toward all foreigners, and of the continual internal strife among the Yemenite tribes themselves.

El Oadi Ismail el-Jerafi, Yemenite charge d'affaires in Cairo said:

"The British have smelled oil on the southern frontiers off Yemen and are creating a state of tension among the tribes under their protection in order to bring these regions completely under their control." The diplomat was referring to recent clashes between British troops of the Aden protectorate and the rebellious tribes on the borders of Yemen and Aden. The British say the tribes were at war between themselves and charge Yemen is arming and financing the rebels in order to extend Yemenite rule over the Protectorate tribes.

Britain has been trying for some years to unite various sheikhdoms of the Aden Protectorate under a federation linked to Britain.

For this reason Britain recently appointed British advisers and officers to the various sheikhdoms of the Protectorate. But the rebel tribes near the Yemenite border fought the move and killed several British officers and local mercenaries.

Tension due to oil was also reported recently in neighboring Oman, also under British protection and also coveted by Yemen (PW—Jul.15'55, p29).

Reports of an oil discovery in a disputed area in Aden Protectorate some months ago have been officially denied. Petroleum Concessions Ltd., an affiliate of Iraq Petroleum Co., has had only a geological survey team in the area thus far.

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Ultimatum for Petrobras

BRAZIL—A leading contender in Brazil's forthcoming presidential elections this fall says he would give Petrobras, the government oil monopoly, one year to solve the country's oil problems. "If things are unchanged by then," Jucelino Kubitschek says, "I shall seek another solution." Foreign oil men here interpret this as meaning Kubitschek would favor opening Brazil to foreign oil exploration and production.

Although Brazil's oil and gas imports are showing a momentary decline, they eat up much of the country's dollar supply. So the question of whether foreign oil companies should be allowed to exploit Brazil's oil is one of the top election issues.

So far, Brazil has been setting up several refineries to cut down on imports of costly refined products. A spokesman for Petrobras claims those already operating will save some $43-million in foreign exchange this year, and more than $68-million in 1956. A new 5,000-b/d refinery is now under construction at Menaus and is scheduled for January completion.

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No Quarrel, Says Onassis

SAUDI ARABIA—"There is no personal quarrel between me and Aramco," Aristotle Onassis, Greek tanker king, told newsmen in Cairo last week. Stopping briefly enroute to Jeddah for "launching" of the world's biggest tanker, Onassis said that his relations with "responsible Americans in Saudi Arabia are at present most cordial. Now that I have proposed to transport this precious liquid (Aramco's oil) under the Saudi flag, I think the question of arbitration will be settled amiably."

Onassis added that he had made great effort to assert the sovereignty of oil-producing countries, particularly Saudi Arabia, by establishing the Saudi Arabian Tankers Co. "From now on, more and more Saudi tankers will be transporting more and more Saudi oil," he said.

Last week's belated "launching" ceremony for the 47,000-ton "El Malek Saud el-Awal" at Saudi Arabia's Red Sea port of Jeddah was attended by King Saud. The Saudi Arabian King led more than 1,000 guests, invited by Onassis, aboard the ship bearing his name. The tanker is owned by Onassis and flies the Saudi flag.

This Jeddah ceremony reportedly marked the first shipment of oil by the tanker—but Jeddah is no Saudi oil port, and this shipment was not the tanker's first.

The first oil shipment took place May 20 at the Aramco port of Ras Tanura, and an inauguration ceremony took place there—minus the King and Onassis. That ceremony was attended by Emir Abdul Aziz Ben Jilawi, governor of the eastern province, by Aramco executives, and by Saudi officials in the Dhahran area. The tanker was charted to Socony Mobil Oil Co., and the shipment went to a Socony Mobil refinery on the New Jersey coast. On this maiden voyage El Malek Saud carried 278,296 bbl of crude. This was considerably less than its full capacity, but it has turned out that the Suez Canal is not deep enough to accommodate the world's biggest tanker at full load, and at its full speed of 17 knots.

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New Pattern for India?

INDIA—A pattern for future oil company operations may be emerging as a compromise between private and government ownership. A new company will be set up in October in which the Indian government will hold one-third of the share capital, and Assam Oil Co., Ltd., (a Burmah Oil Co. subsidiary) the other two-thirds. The new "rupee company" will explore for oil in the state of Assam, operating over 450 sq. mi. in the Lakhimpur district adjoining the Naharkatiya area.

The agreement between the government and Assam Oil Co. reduces India's customary 60-year mining lease period to 20 years, with a government option to extend the period for another 20 years. The government's share in the new company is larger than the 25% it holds in the Indo-Stanvac company now prospecting in the Bengal Basin.

Maximum employment for Indians at all stages of the work is also specified in the agreement, and a personnel pool is to be built up on which New Delhi could draw for similar ventures in other parts of the country.

Results of the new company's operations will determine whether Assam will have a second refinery in addition to Assam Oil Co.'s Digboi refinery.

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Marine Drilling in France

FRANCE—The first open-water drilling in Western Europe will be started shortly by Esso Standard S.A.F. in the Lake of Biscarosse, in the Parentis area of southwestern France. The French affiliate of Stand-

BUTTON, button, Who's Got the Button?

French oil circles are still grinning at this one:

- A Government agency, surveying the Juras area of Eastern France several years ago, found gas.
- A Government oil agency (Regie Autonome des Petroles) was then called in to explore the gas—and struck coal.
- The National Coal Administration (Charbonnage de France) then took over to develop the coal seam—and struck oil this May.
- The oil agency (Regie Autonome des Petroles) has now taken over again to test the oil.

Bets are running two-to-one in France on another coal strike.

ard Oil Co. (N. J.) has nearly completed a platform for rig and auxiliary equipment to drill Parentis well No. 11 in an area of the lake 10 ft. to 15 ft. deep. Maximum depth of the lake is 60 ft. A drilling barge is now being assembled for use in future drilling. But because of erratic reservoir conditions, the company will feel its way before undertaking a second lake drilling, Parentis No. 14, to the east of the No. 11 location. Esso-Standard reports that the seven wells now producing in the Parentis area are averaging 1,887 b/d per well.

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Bolivia Makes Oil Deals

BOLIVIA—First deliveries of Bolivian kerosine and gasoline to Brazil will be made Aug. 1 under a new two-year agreement between the South American countries. Brazil will export equipment for Bolivia's petroleum industry, and tires, tubes, and tank trucks, in return.

Currently Bolivia is negotiating with Chile for an increasing volume of petroleum exports in return for Chilean iron. Yacimientos Petroliferos Fiscales Bolivianos, the government oil entity, has exchanged about 3-million gal. of oil for Chilean iron since an agreement was signed last October. When the pipeline from Oruro (Bolivia) to Africa (Chile) is completed, Bolivian oil exports are expected to increase substantially.

Exports to Argentina through the recently completed Camiri-Yacuiba pipeline will begin in August. They have already increased this month from 71,000 to 119,000 gal. daily.

Under the new Brazil pact, Bolivia will deliver 269,280 gal. of gasoline a month for the rest of this year, to be increased gradually, starting in January, to 530,640 gal. monthly by next July. The agreement also calls for kerosine quotas of 55,440 gal. monthly to be delivered to Brazil until June, 1956, with a readjustment to increased consumption thereafter. Brazil may request increase of the quota to a maximum of 62,000 gal. monthly before then if required. Prices specified are 11¢ a gal. for gasoline, and 10.7¢ for kerosine, f.o.b. Santa Cruz de la Sierra. Deliveries must be made via the Brazil-Bolivia railroad.

Bolivian imports from Brazil will start next year. They'll include 15 tank trucks manufactured by Brazil's Fabrica Nacional de Motores; tires, tubes and spare parts for maintenance of trucks transporting fuel for export; and equipment for developing Bolivia's oil industry. The agreement may be extended three months before it expires.

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FRANCE—D. D. Feldman Oil & Gas, a Dallas independent, will open an exploration office in Paris to direct new operations in Europe and the Middle East. Roger Henquet, manager of European operations, has announced that Feldman is negotiating for two large concession areas in France in conjunction with French interests. The company, he says, has also filed exploration claims on the west coast of Italy, near Pescara, and is negotiating for concessions in Sicily. Feldman is investigating Swiss possibilities as well, and hopes to acquire one or two exploration areas in the Middle East. Henquet says the company plans to have several geologic and seismic crews at work in Europe in the near future. It has recently expanded western hemisphere operations to Canada and Cuba.

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AUSTRIA—Dr. Karl Friedl will be appointed to head the Austrian Mineral Oil Administration as soon as it's set up after the Soviets relinquish the Austrian oil fields, the Ministry of Trade has announced (PW—Jul. '55, p. 28). The leading Austrian geologist, Dr. Friedl has been director-general of Erdoel Produktions Gesellschaft, an oil company owned jointly by the Austrians and the Soviet Mineral Oil Administration. He is regarded as the best-informed man on the Austrian oil fields since they were taken over in 1945 by the Russians.

Recently Dr. Friedl said Austria could expand oil development with proceeds from production and did not need foreign capital for exploration. Refineries, however, need expansion and modernization, and foreign capital would be drawn upon to do the job, he stated. He estimated crude oil reserves in lower Austria, Burgenland, and Alpenvorland, between Saint Polten and the Bavarian frontier, amount to at least 350-million to 700-million bbl. in Soviet-held areas. He said reserves amount to 210-million bbl.

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SAUDI ARABIA—Crude oil production continued to drop in June. Arabian American Oil Co. reported average output at 885,286 b/d, as against 943,712 b/d in May and 955,217 b/d a year earlier. Crude processed at the Ras Tanura refinery reflected the same decrease, averaging 175,913 b/d for the month, compared with 195,071 b/d in May and 184,113 b/d in June last year.

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KUWAIT—The ruler of Kuwait, Sheikh Abdullah Al-Sabah, has signed a decree turning over to a newly established State Treasury all his personal wealth accrued from oil and other revenues.

The decree was published in Official Gazette.

This means that Kuwait's huge oil revenues—expected to total over $260-million in 1955 (PW—Jul.8'55,p12)—will henceforth be considered state revenue. The Sheikh will turn over all his personal accounts in British and American Banks to a government finance department that will be set up to control the state's revenues and expenditures.

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Chemical Engineers: B.S. or higher degree and experience in development, pilot plant operation, process design, process trouble shooting, refinery process engineering, economic studies, or related work background.

Chemists: B.S. or higher degree and experience in product and process research or development.

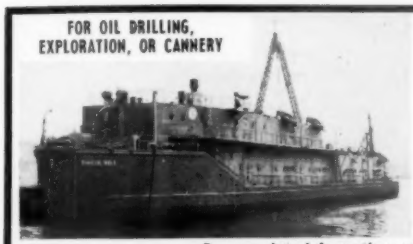
Mechanical Engineers: B.S. or M.S. degree and experience in process equipment construction, design, inspection, or maintenance, petroleum product testing and field evaluation, or related work background.

Age range 22-32

Salaries commensurate with experience and level in organization. Advance on merit basis.

If you can qualify and are looking for a permanent job with a growing but secure midwest company, write, giving full information on education, industrial experience, military experience, and personal data to E. G. Glass, Jr., 1737 Midland Building, Cleveland 15, Ohio.

FOR OIL DRILLING, EXPLORATION, OR CANNERY



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SIZE: 265' L.o.a., 47.85' beam, 16.2' draft, 2529 gross tons

POWER: 3 diesel generators, total 425 KVA, 3-phase, 60 cycle, 440-220-110 volts throughout barge

CLIMATIZED: Spun glass, insulated steel superstructure. Air conditioned. Adaptable to arctic or tropic conditions

QUARTERS: Complete accommodations for 120 men

EQUIPMENT: Cargo boom; steam plant; 50,000 gals. fresh water; refrigeration; intercom system; fire protection

For complete information contact J. F. Meagher

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For New Oil Refinery under construction near Pence, Puerto Rico

Immediate position for man with broad refinery accounting experience, to act as chief accountant and supervisor for all accounting and financial duties at refinery, and also to act as refinery office manager.

Reply Air Mail, giving complete resume including present salary, availability, etc.

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REPLIES (Box No.): Address to office nearest you
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CHICAGO: 520 N. Michigan Ave. (11)
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POSITION WANTED

Attorney, 29, married, veteran, 3 years diverified oil and gas experience Rocky Mountains, member Colorado Bar. Desires opportunity with active Denver independent to handle legal and land work. PW-7170, Petroleum Week.

What is Your Need?

Do you need competent men for your staff? Men experienced in the oil industry. Men to fill executive, sales or technical positions?

Or are you looking for—or offering—a business opportunity of special interest to men in the industry served by this publication?

Or are you seeking buyers for surplus used equipment, or want to buy such equipment?

The solution of any of these needs can logically be found first among other readers of Petroleum Week. You can get the attention, at small cost, through an advertisement in this "CLASSIFIED" Section of PETROLEUM WEEK.

The Market Place

AROUND THE WORLD

Current key crude and refined oil prices compiled for PETROLEUM WEEK by Platt's OILGRAM Price Service, a McGraw-Hill Publication.

All Prices as of July 25

*Bold face type indicates changes from previous week

KEY PRICES—REFINED PRODUCTS

(¢ per gal., except dollars per bbl. where $ is shown)

WESTERN HEMISPHERE

U. S. Gulf Coast, cargoes
- Gasoline, 97 oct prem 13-13.25
- Gasoline, 90 oct reg 11-11.25
- Kerosine 8.75-9.75
- Heating oil, No. 2 ..... 8.25-9.25
- Gas oil, 48-52 d.i. 8.375-9.125
- **Fuel oil, bunker "C" $2.10-2.15**

Caribbean, cargoes
- **Avgas, Grade 100/130 ..... 16.75**
- Gasoline, 93 oct. research prem 11.5
- Gasoline, 87 oct research reg 10.5
- Gasoline, 79 oct research 9.75
- Gasoline, 70-72 oct motor method 9.5
- Kerosine 8.75
- Heating oil, No. 2 ..... 8.25
- Gas oil, 48-52 d.i. 8.375
- Fuel oil, bunker "C" $2.10

New York Harbor, barges
- Gasoline, 89 oct reg 11.75
- Kerosine 10.55
- Heating oil, No. 2 ..... 9.8
- Fuel oil, No. 6 ..... $2.50

Okla.-Group 3, northern shpt, bulk
- Gasoline, 86 oct reg 10.75-11.25
- Kerosine 9.375-9.625
- **Heating oil, No. 2 ..... 8.125-8.65**
- Fuel oil, No. 6 ..... $1.75-1.90

Chicago, bulk
- **Gasoline, 86 oct reg 12**
- Heating oil, No. 2 ..... 9.5-10.3
- Fuel oil, No. 6, high sulfur 7.15-7.35

Los Angeles, rack
- **Gasoline, 84 oct reg 11.75-12.1**
- Stove dist., PS 100 ..... 9.25-10
- Diesel fuel, PS 200 ..... 8.75-9.25
- **Light fuel, PS 300 ..... $2.05-2.10**
- **Heavy fuel, PS 400 ..... $1.70-1.85**

Natural Gasoline, Grade 26-70
- FOB Group 3 5
- FOB Breckenridge, Tex 4.5

Penna. Lubes
- **Bright stock, 25 p.t. 17.5**
- **200 vis. neutral, 25 p.t. 18**

Mid-Continent Lubes, Tulsa basis
- Bright stock, solvent, 95 vi. 20-21
- Neutral, solvent, 200-210 vis 15.75-16.75

Gulf Coast Lubes
- Bright stock, solvent 95 v.i. 19-20
- Neutral, solvent, 200 vis 15-16.75

Sterling

EASTERN HEMISPHERE

Singapore, cargoes
- **Avgas, Grade 100/130 ..... 18.125**
- Gasoline, 79 oct research 10.25
- Gasoline, 70-72 oct motor method 10.00
- Kerosine 9.375
- Gas oil, 48 d.i. minimum 8.875
- **Fuel oil, light $3.10**

KEY PRICES—CRUDE OIL

(2¢ differential per deg. of grav. applies except as noted)

WESTERN HEMISPHERE

United States (at the well)
- Mid-Continent, 36.0-36.9 grav $2.82
- North Dakota, 36.0-36.9 grav 2.82
- Texas:
  - Gulf Coast, low cold test, 26.0-26.9 grav 2.95
  - Gulf Coast, upper & lower, 26.0-26.9 grav 2.82
  - West Texas sweet, 36.0-36.9 ..... 2.82
  - West Texas-New Mexico intermediate, 36-0-36.9 ..... 2.75
  - West Texas—New Mexico sour, 32.0-32.9 ..... 2.61
  - East Texas, flat price 2.90
  - Mirando, 28.0-28.9 grav 2.96
- Illinois Basin, flat price 2.90
- Penna. Grade, Bradford dist., flat price 3.60
- California, Signal Hill, 21.0-21.9 grav ..... 2.30†
- North Louisiana-Arkansas, 36.0-36.9 grav 2.82
- Wyoming sweet, 36.0-36.9 ..... 2.82
- Wyoming sour, 32.0-32.9 ..... 2.48

Canada (flat prices, at the well)
- Acheson-Stony Plain (Alta.) D-2, D-3, L.C. 2.54
- Leduc-Woodbend (Alta.) D-2, D-3 ..... 2.60
- Redwater (Alta.) D-3 ..... 2.49
- Daly-Mississippian (Man.) 2.34
- Smiley-Viking (Sask.) 2.24

Venezuela (Cargoes, FOB lifting port designated)
- Cumarebo, 48.0-48.9, Tucupido 3.40
- San Joaquin, 41.0-41.9, Puerto la Cruz 3.04
- Oficina, 32.0-32.9, Puerto la Cruz 2.82
- Tia Juana Medium, 26.5-26.9, Amuay 2.30*
- Bachaquero, 16.5-16.9, Amuay, Las Piedras 1.80**
- West Tarra, 37.0-37.9, Cardon 2.99
- Lagunillas Heavy, Amuay, Cardon, Las Piedras, flat price 1.85

Differential per ½ deg. grav.: (*) 2.5¢ bbl. (**) 3.5¢ bbl.
†Differential per deg. of grav. varies.

EASTERN HEMISPHERE

Middle East, Persian Gulf (Cargoes, FOB lifting port)
- Arabian, 36.0-26.9, Ras Tanura 1.97
- Basrah, 36.0-36.9, Fao 1.92
- Iranian, 34.0-34.9, Bandar Mashur 1.91
- Iranian, 34.0-34.9, Abadan 1.86
- Iraq, 36.0-36.9, Fao 1.92
- Kuwait, 31.0-31.9, Mina-al-Ahmadi 1.72
- Qatar, 39.0-39.9, Umm Said 2.06

Middle East, E. Mediterranean
- Arabian, 36.0-36.9, Sidon 2.39
- Iraq, 36.0-36.9, Tripoli, Banias 2.39

Far East (Cargoes, FOB Lutong, Sarawak)
- Seria Light, 37-38 grav 2.60

KEY TANKER RATES

(Last paid, per long ton, single voyage)

- U. S. Gulf-New York, clean ..... (USMC—10%) $2.75
- U. S. Gulf-New York, dirty ..... (USMC—25%) $2.14
- NWI-USNH, dirty ..... (USMC—30%) $1.89
- **NWI-UK/Continent, dirty ..... (Scale—15%) 27/8***
- **Persian Gulf-UK/Cont., dirty ..... (Scale—flat) 54/1***
- Persian Gulf-USNH, dirty ..... (USMC—55%) $5.72

Sterling

The Market Trend

The Hunger for Energy: It's Growing

"It's all we can do to scrape up enough heavy fuel to bunker the ships that carry coal abroad." That was an oil executive talking this week. He had in mind the tremendous hunger for energy—oil, natural gas, coal—that is so pronounced on both sides of the Atlantic.

In England, Central Electricity Authority signed a huge purchase contract for bunker oil with Shell-Mex and B. P., Ltd. The deal calls for delivery of about 19-million bbl. per year for a period of 12 years. This is the second big purchase that CEA has lined up within the past month. In late June, the electric agency contracted to take 200-million bbl. over 10 years from Jersey Standard affiliates (PW—Jul.8'55,p91).

On the U. S. East Coast, suppliers see a shortage of heavy fuel for the first quarter of 1956. Importing companies are bracing for it even now. They're bringing in higher viscosity residuals than ever before. That way they can do their best to abide by the Cabinet's Fuels Policy Committee recommendations, and at the same time get the most mileage in Btu's.

A big prop to East Coast heavy fuel demand is ships' bunkering of vessels carrying coal to energy-short foreign nations. The marine trade, by its very nature, has first call on bunker supplies. It has no substitute fuel to fall back on. The forecast: Unless the import recommendations are greatly relaxed, there won't be enough heavy fuel to go around for everybody this winter.

In California, the price of bunker "C" fuel in cargo lots has been inching up. In June, heavy fuel sold at Los Angeles at $1.60. Now, it's hard to find at $1.80.

Distillates—A Firm Spot:

What makes distillate prices so firm in the off season? For the answer, Gulf Coast cargo traders will tell you to forget about the rapidly rising inventories. Instead, watch the individual actions of refiners.

Most Gulf Coast independent refiners have little No. 2 fuel to offer. A New Orleans independent recently sold his entire summer's output. One independent in Houston and another in Corpus Christi are filling orders only by purchase of supplemental cargoes. Most majors are not sellers of spot cargoes.

Export demand for distillates from Canada, South America, Western Europe this season has been good. Railroad diesel consumption is up 10% over the 1954 rate in the first four months of this year.

Gasoline:

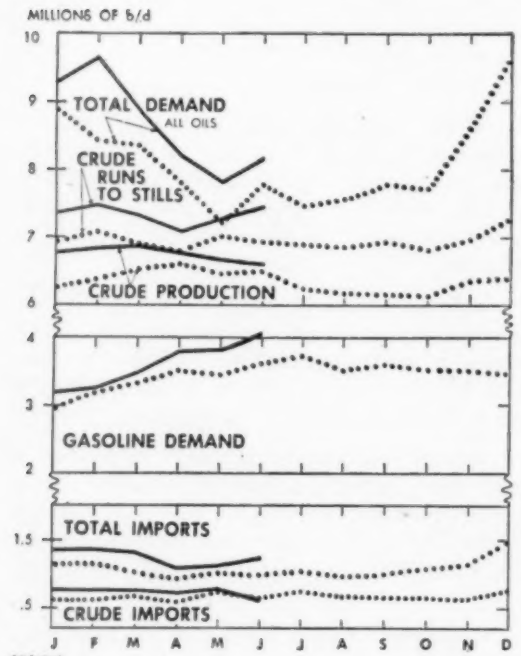
It takes a concession here and there to find new business. In Virginia, jobbers have been offered this deal to switch suppliers: 3¢ off tank wagon on regular-grade; 3.5¢ off on premium; and "liberal" financing on new station construction, painting and advertising. In Italy, refiners say that the prevailing export price for cargo lots now is "Platt's low at the Gulf, minus 1¢."

Avgas:

Most grades of aviation fuel were priced 0.5¢ a gal. higher in the Caribbean this week. At the U. S. Gulf, alkylate demand is strong. One refiner, a big maker of avgas, will buy 100,000 bbl. a month of alkylate—if he can find it.

PETROLEUM WEEK'S

Fingertip Figures



TOTAL DEMAND

Latest 4-week average	8.211
Year ago	7.645

RUNS TO STILLS

Latest week	7.620
Previous week	7.582
Year ago	6.774

CRUDE PRODUCTION

Latest week	6.650
Previous week	6.626
Year ago	6.268

GASOLINE DEMAND

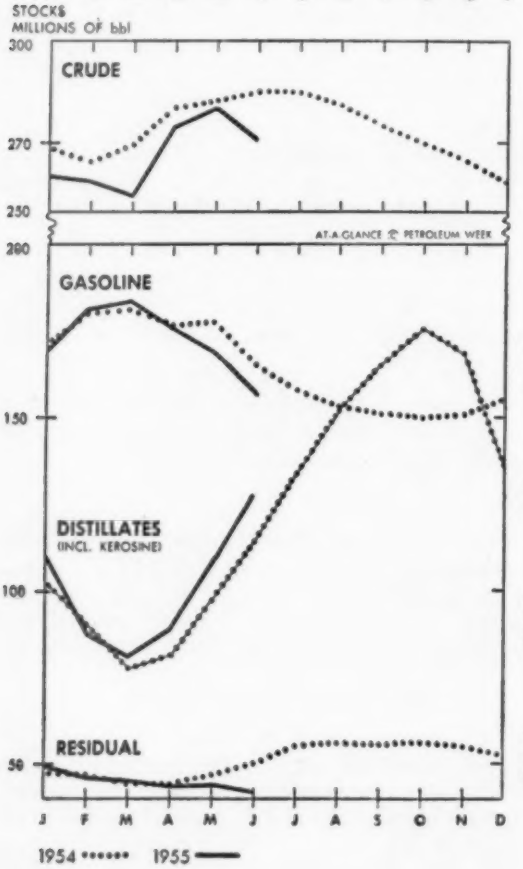
Latest 4-week average	4.062
Year ago	3.825

TOTAL IMPORTS

Latest week	.993
Previous week	.971
Year ago	1.157

CRUDE IMPORTS

Latest week	.734
Previous week	.662
Year ago	.763



CRUDE STOCKS

Week ending 7-16	268.8
Previous week	270.5
Year ago	277.7

GASOLINE

Latest week	157.7
Previous week	158.8
Year ago	158.8

DISTILLATES

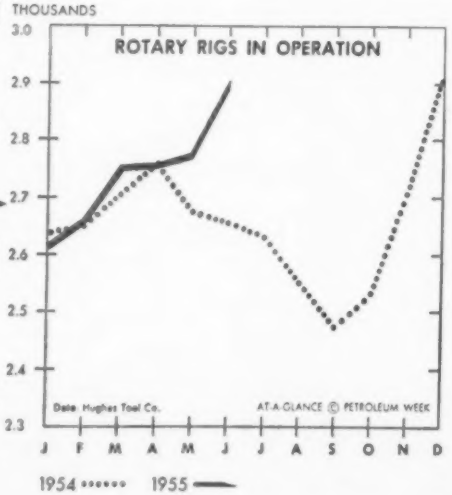
Latest week	143.6
Previous week	140.3
Year ago	129.5

ROTARY RIGS

Latest week	2.910
Previous week	2.886
Year ago	2.632

RESIDUAL

Latest week	45.3
Previous week	45.5
Year ago	53.6

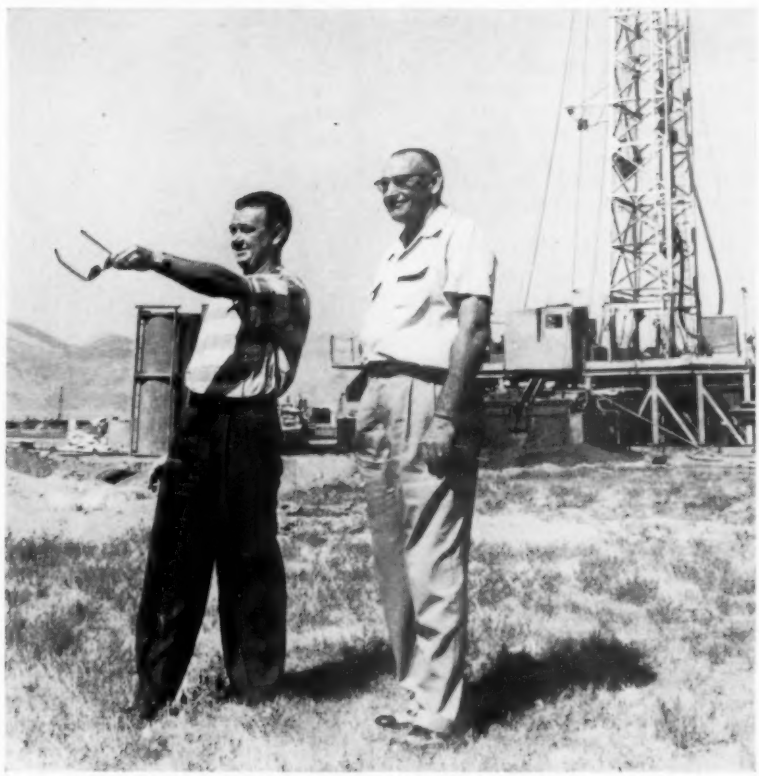


TOTAL DEMAND for all oils continues to run well above a year ago, with the gain in the four-week period ended July 22 amounting to 7.4%. Gasoline demand, the industry's pace setter, was up 6.2%.

There has been no move to cut back refinery runs, which since the start of June have averaged more than 7.5-million b/d. That's the longest period in the industry's history at this rate. Runs to stills last week, averaging 7,620,000 b/d, were 12½% higher than a year ago. Total demand has been strong, but the increase in refinery output over a year ago has exceeded the increase in demand. This could pose some serious problems later this year. Should runs continue at this level, for instance, all signs point to a tight crude oil supply in August.

* * * *

Gasoline price increases in the Chicago area and the Rocky Mountain states this week reflect a tight supply position and good demand in the Mid-Continent and Midwestern states (District II). As a result of the high level of industrial activity, motor-fuel demand in the region in the first six months of 1955 paced the nation with a gain of 7.7% (as against 6.1% for total U. S.). Gasoline stocks in the area now are equal to a 35-day supply, compared with a 42-day supply a year ago. Residual stocks in District II currently equal a 32-day supply vs. 35 days a year ago.



Contractors Heiser (left) and Green prove . . .

Teamwork Builds Profits

Don Green and Art Heiser have built a successful California contract drilling partnership in three years by making teamwork a reality rather than a goal.

When Green & Heiser Drilling Co. spuds in with one of its two for-hire rigs, the difference between profit and loss depends largely on the complementary talents of the firm's two principals. Heiser's estimate has to be right, and Green has to make hole fast enough to pull the job through with a profit.

The partners spudded their first well on July 2, 1952. Since then they have drilled 97 more, proof that their teamwork formula has paid off. The firm's two rigs currently are working in the Tejon field, 25 mi. south of Bakersfield, Calif., where three new pool discoveries have tripled field production in less than a year.

The young (he's 33), college-trained Heiser is the "front-office" man; Green (who's 49) oversees field operations. Both are especially suited to their tasks.

Heiser, a petroleum engineering graduate of Colorado School of Mines, is naturally gregarious and talks "front-office" language; Green, who has spent nearly 30 years in the oil fields, spends so much time in the field he doesn't even have a desk in the firm's modest Bakersfield office.

"Keep up your rigs, keep 'em busy —at a profit—and everything else falls in line," Heiser says. And it's up to Heiser to keep the rigs busy. How well he has succeeded is seen by checking log times of the firm's two rigs. With new well-drilling in the San Joaquin Valley running about 20% behind last year, only one of the rigs has logged any down time this year—and that was only one week.

Green is really a silent partner when he's in the office. "But you get him out on a rig and he'll talk your head off," Heiser says. "Where he really counts is at 2:30 some morning when he has to get out of bed and make a decision over the phone that is going to make us or lose us $30,000."

Beginning of the partnership goes back to a casual remark Heiser once made to a rig salesman, asking: "Just what does a guy have to have to get a rig?"

At the time Heiser was vice-president of another contract drilling company—a job he had come to after experience as a petroleum engineer with Standard Oil Co. of California and as district engineer for Oil Well Supply Co. He had been interested in oil since his boyhood days in Casper, Wyo., his birthplace.

Green, who left his boyhood home in Muncie, Ind., to work in the oil fields, was drilling superintendent for the same contractor and a veteran of drilling operations throughout California.

The rig salesman detailed three qualifications to get a rig—character, capability, and capital. "Two out of three make a good credit risk," he told Heiser. The two got their rig, making a down payment of $27,000, their combined life savings, on $268,000 worth of hard steel.

"Then the iron curtain dropped on us," Heiser recounts. The 1952 steel strike delayed delivery of their rig about four months. With a job already contracted, the two rented a rig and drilled their first well. "After we met our first payroll," Heiser recalls, "we had $311 left in the bank." They've been "turning to the right" ever since.

Thorough study precedes any Green & Heiser bid; profits usually follow. Stable drilling crews, low accident rates, and minimum "fishing" losses also help build up profit margins.

When the firm gets an invitation to bid on a well, Heiser digs into an office file containing a brief history of every well drilled in California in the past three years. "Drilling methods have changed so fast, anything older than that would be out of date," he says. When he finds what wells have been drilled in the area where he hopes to get a job, he checks with the operators to get as much additional information on conditions as possible.

Most jobs are bid on a footage basis. Heiser has prepared his own bid calculation sheet which takes into account 19 variables affecting the cost of a well, ranging from labor and supervision to administrative costs.

Among the variables on Heiser's check sheet are rig and drill pipe depreciation. "A lot of contractors make the mistake of bidding their drill pipe depreciation," Heiser says.

Green & Heiser drilling crews are unusually stable in a business where

the workers are mostly transient, due to the vagaries of oil occurrence; most of their 43 employees have been with the firm for over a year. One reason for this has been steady work. "Keep your rigs busy and you'll keep your men happy," Heiser says.

Their accident rate is low. Rig 1 has worked 572 days (to July 8) without a lost-time accident. Rig 2 had worked 539 days without a lost-time accident up to Mar. 1, this year. On that day Heiser posted a new safety sign on the doghouse. "The next day a guy skinned his leg on the brake and was off a month," he adds, wryly. There have been no lost-time accidents since.

Green has a simple formula to reduce the risk of costly fishing jobs, number one nemesis of contractors who drill on a footage basis. His solution: "Don't run anything in the hole you can't fish out."

Just to make sure, Green keeps a close watch on the drill string to guard against twist-offs.

Paid vacations, health and insurance benefits, and wage hikes contribute to Green & Heiser's excellent labor relations program.

The firm gives employees with one year seniority a week's paid vacation—a rarity in the contract drilling business. Recently the partners made another unusual move, for their field: taking out a group health and life insurance policy for their workers.

Last May, Green & Heiser crews got a 4½% pay raise ("We like to be the first to raise"), bringing each driller's pay to $3.40 an hour, 22% higher than when the company spudded in its first well.

The firm's two toolpushers and the maintenance man share in the profits. "Last year they made more than U. S. Senators," Heiser reports.

A recent experience points up another unorthodox approach to the labor problem. A driller made the mistake of running the traveling block into the crown, a mishap which usually results in quick dismissal of the unfortunate driller. But Green & Heiser kept him on the job. Green explains: "Now that the guy's done it once, he sure won't want to do it again. He'll be extra careful now."

Green's familiarity, and contact, with field problems has paid off for the partnership in drilling know-how.

"On the first Tejon wells," Green says, "the kelly didn't make many turns I didn't see." Soon after the partners moved in at Tejon last summer, another operator proved up pay at the 7,000-ft. mark, setting the stage for a deeper drilling campaign in the area.

Drilling 7,000-ft. holes posed a problem for one partnership rig, which was not rated for that depth. The partners could push the rig beyond capacity, and risk the consequences, or spend about $30,000 to boost horsepower to handle the deeper drilling. Green made the decision. "We yanked an engine off the mud pumps, put it on the drawworks, and got two new engines for the pumps," he says. "It'll pay off, too, in easier handling on the shallow stuff."

Heiser says much of this corner cutting on bids in a highly competitive field is based on his partner's ability to make hole, move rigs fast, and meet emergencies with the right answers.

Green begins his work day at 5:30 a.m., "regular as clockwork," and spends most of his time in the field. Heiser tackles the myriad office details and may wind up on a golf course, "teeing-off" on prospects.

Green takes morning calls from the two rigs at his home, occupied only by himself and his wife since his daughter married. He then checks into the office for a few minutes, long enough to talk with the rig mechanic before he goes out into the field. Then he has breakfast.

The first daily meeting of the partners generally occurs at the lunch counter of a motel on Highway 99, near their office. Over morning coffee, the two bring each other up to date on company affairs before going their separate ways—Heiser to the office, Green to the field.

At the office, Heiser checks the mail, looks over bid requests, and translates field reports into the dollars-and-cents charts and tabulations which are his end of the business. As often as not, Heiser's work day may end on the golf course, fertile ground for many an oil deal.

At the field, Green checks the rigs, talks with his toolpushers, and takes care of the innumerable other problems which come up during a well drilling. His day may end at another roadside coffee shop, where he will exchange news and views of the day with fellow oil men.

On the days one of their rigs is moving, the Green & Heiser organization rolls in high gear. "You ought to see us move," Heiser says proudly. "Twelve hours on the last move from the time the rig was released 'til we spudded another well."

When Heiser gets home at night to his wife and two children, he can count on more understanding than most men in this highly specialized business. Laura Heiser is a registered petroleum engineer—one of only three in California.

W. G. HUME will manage the sales promotion department of Anderson-Prichard Oil Co., Oklahoma City. The firm's expanding marketing operations now include 11 midwestern states. A native of Arkansas City, Kan., he has been assistant traffic manager of Kanotex Refining Co., and was manager of Sovereign Service, Inc., a sales promotion facility for refiners at Wichita, before joining Anderson-Prichard in 1954.

JACK W. ROACH has been named assistant to the president of Deep Rock Oil Co., Tulsa. He will coordinate Deep Rock's research and development activities and direct special projects assigned from the president's office. He will continue to serve as vice-president. **Robert M. Chesney,** vice-president in charge of the company's Cushing refinery, has been given charge, in addition, of its Wynnewood plant. His office will be in the Kerr-McGee building in Oklahoma City.

LAMAR CANES has been appointed vice-president and general counsel of Ada Oil Co., Houston. He has been general counsel for the firm.

WESLEY M. DIXON has been elected a director of Pure Oil Co., Chicago. He is president of Container Corp. of America and a director of the Harris Trust & Savings Bank. He replaces **Robert W. McIlvain,** who resigned from the Pure Oil board after serving as a director since 1917.

DONALD G. CLARK, new vice-president of Allied Oil Co., a division of Ashland Oil & Refining Co., Cleveland, will be sales coordinator for Allied. He has had assignments in the Cleveland office since 1952.

C. K. SHEPHERD has been named exploration manager of Egyptian-American Oil Co., subsidiary of Continental Oil Co. A Denver resident, he was regional geophysicist for Conoco's Rocky Mountain region. He will make his headquarters in Cairo, Egypt.

KEITH L. RATHBUN has been advanced to exploration manager of Continental Oil Co.'s western region, with headquarters at Los Angeles. He has been in that office as a regional geologist since 1953, after service as as-

sistant manager of the company's geological section. He has been with Conoco since 1936. He succeeds **R. M. Barnes,** who was promoted recently to senior consultant. Rathbun's former post will be filled by **Richard B. Haines,** formerly assistant regional geologist.

WILLIAM C. MERRITT has been named second in command at the La Salina camp of Creole Petroleum Corp., Venezuelan affiliate of Standard Oil Co. of N. J. Formerly administrative assistant to Creole's production manager at Caracas, he will now carry the title assistant district superintendent. Originally a Dallas resident, Merritt spent one year with Humble Oil & Refining Co., then transferred to Jersey Standard in 1936 and has resided in Venezuela since that time, except for a short stint in the Dutch West Indies. La Salina is a storage and service center for Creole operations off the shore of Lake Maracaibo.

WALTER R. CLARK, R. VERNON JONES, and **R. M. WALLACE** have been advanced by Phillips Chemical Co. to handle sales of Phillips' new polyethylene discovery, Marlex. Clark will assist **George Wash,** director and sales manager of the new plastic sales division. Jones will manage technical service and development in the division, and Wallace will be administrative assistant and coordinator. Clark was a technical consultant in the research and development department of Phillips Petroleum Co., parent of Phillips Chemical. Jones, formerly a research section manager, spent four years studying possible applications of the new plastic, and on other plastics developments. Wallace, who has supervised operations of Phillips Chemical and has served as assistant manager of the parent company's atomic energy division, has been on loan to the Federal Facilities Corp., Washington, D. C., as chief of the plant operations division of the Office of Synthetic Rubber.

E. F. HINDMAN will manage the newly created Louisiana division of Texas Gas Transmission Corp. His headquarters will be at Lake Charles. The division, formed to gather gas from south Louisiana fields for the Texas Gas system, was an outgrowth of the recent merger of Louisiana Natural Gas Corp. and Texas Northern Gas Corp. into Texas Gas. Hindman, a veteran of 25 years in the natural gas business, was general superintendent of both Louisiana and Texas Northern.

CAREY CRONEIS and **THEODORE A. LINK,** of Rice Institute, Houston, and Link, Downing & Cooke, Ltd., Toronto, are vying for presidency of the American Association of Petroleum Geologists, Tulsa. Election will be by mail ballots, to be counted early in February. A contest for vice-president of the association is between **Ben H. Parker,** of Frontier Refining Co., Denver, and **Walter H. Spears,** Union Producing Co., Shreveport, La. **William A. Waldschmidt,** consultant, Midland, Tex., and **William C. Krumbein,** Northwestern University, Evanston, Ill., have been nominated without opposition for the posts of secretary-treasurer and editor, respectively. Those elected will take office Apr. 26, 1956, at the close of the group's 41st annual meeting, which will be held at the Conrad Hilton Hotel, Chicago.

FRED W. LONG has been promoted to vice-president in charge of sales for Rock Island Refining Corp., Indianapolis, Ind.

EDWARD S. HOLT (left) has retired as president of Utah Oil Refining Co. He is succeeded by **ASHBY J. BADGER** (right), former executive vice-president. Holt, Utah Oil president since 1947, wil remain a director of the firm. He started his oil career with the company in 1913, advanced from laboratory superintendent to refinery superintendent before he was elected a director in 1925. He became vice-president in charge of manufacturing in 1934. Badger, with the firm 26 years, started as a salesman in Salt Lake City in 1929. He became general marketing manager eight years ago. **P. L. Vander Jagt** has been named a director and vice-president in charge of marketing. A former marketing research manager for Standard Oil Co. (Ind.), he joined Utoco in 1950.

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Tax Study with a Purpose

IT LOOKS LIKE SOME TEXANS are on the right track to letting everybody know—in the Lone Star State, at least—just how much of the tax load in their state is shouldered by the petroleum industry.

As of today, no one in Texas can come close to even "guesstimating" what the amount of that burden is. Result: The tax load keeps right on piling up, without much rhyme or reason. Now, though, the Texas Independent Producers and Royalty Owners Assn. hopes to change all that by commissioning an outside firm to delve into all aspects of oil industry taxation in Texas, lay the full story on the line before the next legislature convenes in 1957.

HERE'S WHAT YOU CAN SEE when you take a quick look at just the state tax structure in Texas:

Severance taxes of 4.6% of the value of oil and condensate at the wellhead, and 9% of the value of gas at the wellhead. This latter will drop to 8% on Sept. 6 and to 7% a year later, where it will stay, unless the legislature changes it.

Regulatory tax of 3/16 of 1¢ per bbl. on oil, for operational expenses of the Texas Railroad Commission.

Motor fuel taxes—4¢ per gal. now on gasoline, 5¢ on Sept. 6; 6¢ per gal. on diesel fuel, 6.5¢ on Sept. 6.

But this is only a part of the story of taxes as far as Texas is concerned. And therein is the rub—and the reason for the TIPRO study. Nowhere in Texas today can you find a compilation on just what the petroleum industry is taxed for ad valorem purposes. Oil men are dead sure only that no business is taxed as much, percentagewise.

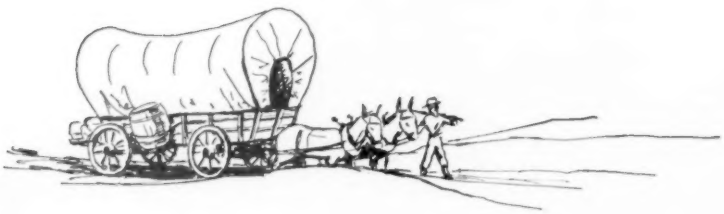
Oil properties—everything from dry hole leases to multi-million-dollar refineries—are valued in a multiplictiy of ways and taxed for independent school districts, water and drainage districts, irrigation districts, flood control districts, navigation districts, cities, counties, and state.

There may be, and frequently are, five or six different valuations on the same piece of property. And that same property can be and is taxed a different rate on these different so-called "true" valuations.

IN SEEKING TO APPRAISE the magnitude of oil's tax burden in their state, the TIPRO group seems to be taking an approach worthy of emulation by the industry in other states. Indeed, it might be well worth the consideration of the industry to arm itself with similar ammunition on a federal level.

Then, the next time some pop-off starts his bombast about the 27.5% depletion allowance, the industry would be ready with an answer in the form of irrefutable proof that it is carrying not only its just share of the national tax load, but maybe quite a bit more.

LEADING THE WAY



As they traveled through unfamiliar regions in their prairie schooners, the pioneer settlers of the western regions of America were faced with many uncertainties. For them, the journey was truly a voyage into the unknown.

Innumerable doubts and misgivings can be present, too, when you embark on an important expansion program, particularly when a decision must be reached on the selection of a process construction organization. There can be no turning back after the commitment becomes final.

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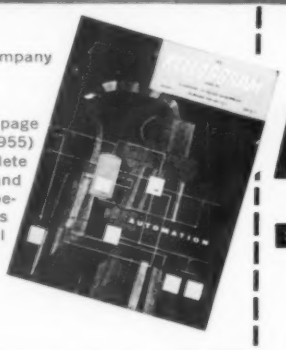

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